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CYTTIAU'R GWYDDELOD
ANTIQUITIES IN HOLYHEAD ISLAND
AND ANGLESEY
BY
THE HON. WILLIAM OWEN STANLEY, F.S.A



7/16

MEMOIRS
ON
REMAINS OF ANCIENT DWELLINGS,
IN
HOLYHEAD ISLAND,
MOSTLY OF CIRCULAR FORM,
CALLED
CYTTIAU'R GWYDDELOD,
EXPLORED IN 1862 AND 1868.

WITH NOTICES OF RELICS FOUND IN RECENT EXCAVATIONS THERE, AND
ALSO IN VARIOUS PARTS OF ANGLESEY.

BY
THE HON. WILLIAM OWEN STANLEY, M.P., F.S.A.

"—præter tumulos fossa circumdatos, quos Hibernicorum casulas vocant, etiam locus est *Yn hericy Gwidil* ab Hibernicis denominatus, qui duce Sirigi, Britannos eo loci fuderunt."—GUL. CAMDENI, BRITANNIA: Mona Insula, sive *Anglesey* (A. D. 1590).

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PREFACE.

FOR the convenience of readers, I have been induced to publish in one volume the three Memoirs containing the result of nine years' examination and excavations of the numerous clusters of the *Cyttiau'r Gwyddelod*, or hut-circles, and other remains of habitations of the early dwellers in Holyhead Island.

The Memoirs are here reproduced as they were first published, and the reader must bear this in mind. We were groping in the dark, and, as we worked our way, fresh objects almost daily came to view; first opinions, hastily formed, had also to be modified. The early surmise, however, that metallurgical operations of some description had been carried on, in most of the huts that were excavated, was gradually strengthened, and we may now with more confidence assume that such may have been the case, since the discovery of the broken casting of bronze at Pen y Bryn huts.

Since the first hut, excavated in 1862, we have not found another arranged internally in the same way, presenting all the appearance of a hut set apart for cooking purposes, or for the preparation of food, all the stones for grinding being composed of grit-stone, similar to those used in most parts of the world even to the present time.

All the huts subsequently excavated are arranged in a

totally different manner. The fire-places are found to have been made of a few rough stones; they had all more or less appearance of metal slag in them, and the stone articles were composed of hard trap rock, bearing marks of having been used for breaking or grinding hard substances. The early Roman coins found in one of the huts might have been brought there for the purpose of being melted with other metal to form bronze castings.

The fragments of pottery, pronounced to be Roman, and also the portion of a bronze bow-shaped *fibula*, seem to supply evidence of the Roman period; the coarse kind of pottery found at Ty Mawr resembled the rude early British pottery, such as we find in cinerary urns on the outer covering vessel, in early interments, like that at Porth Dafarch, of which I have given a description in the "Archæological Journal," and also in the "Archæologia Cambrensis."

The absence of utensils for household use, and also of weapons of war,—of appliances of the chase and for fishing, such as are usually found in early habitations of the same kind elsewhere, is peculiar, and can, perhaps, only be accounted for, by their removal previous to the destruction of the dwellings by fire, vestiges of charcoal being found in considerable quantities amidst the remains of these ancient habitations. In the first article there was a misprint as to the aspect of the entrance of these huts; they are invariably facing the south-east.

I have to acknowledge the kind assistance I have received from Mr. Augustus Franks, Mr. Albert Way, Sir Richard Griffith, Professor Ramsay, and others, to whom I submitted all the relics found, to obtain their opinion, and I have freely quoted from many of our most learned authors on the manners and customs of the early

racés of mankind, in reference to various matters connected with the excavations in our own locality.

We have no reason to suppose that the inhabitants of Anglesey were such barbarians as Tacitus describes them; from extracts which I have quoted, Anglesey was connected with the Belgæ in trade, and there must have been a certain degree of civilization amongst the people; a knowledge of metals and working in iron appears to have existed previous to the Roman invasion of Britain. There is a marked resemblance between the fortified hut-villages, as described by M. le Men, which he examined at Castel Coz, and other localities near Brest, and those of North Wales. The articles found on excavation are very similar, although they may be of a later date than those at Ty Mawr.

We have not at present evidence sufficient to enable us to fix a date when the Cyttiau near Holyhead were inhabited, but we have made a step in advance, and each year's discoveries made by those diligent pioneers so actively engaged in exploring the remains of ancient habitations in all countries may enable us before long to estimate more accurately whose were the hands that used these rude stones, lived in these small and inconvenient huts, what their employment was, and when they lived.

CYTTIAU'R GWYDDELOD.

FIRST MEMOIR.

DISCOVERIES MADE, IN 1862, DURING EXCAVATIONS AT TY MAWR
AND SOME ADJACENT PLACES ON THE SOUTH-WEST
SIDE OF HOLYHEAD MOUNTAIN.

By THE HON. WILLIAM OWEN STANLEY, M.P., F.S.A.

WITH SUPPLEMENTARY NOTICES OF ANTIQUITIES OF STONE,
BRONZE, AND JET, THERE BROUGHT TO LIGHT
AT VARIOUS PERIODS.

By ALBERT WAY, M.A., F.S.A.

[*Reprinted from the Journal of the Royal Archaeological Institute, Vol. XXIV.*]

ON THE REMAINS OF THE ANCIENT CIRCULAR HABITATIONS
IN HOLYHEAD ISLAND, CALLED CYTTIAU'R GWYDDELOD,
AT TY MAWR, ON THE S.W. SLOPE OF HOLYHEAD MOUNTAIN.

IN many parts of Anglesey, but particularly near Holyhead, are to be seen in rough and uncultivated districts of heathy ground, over which the plough has never passed, certain low mounds which on examination are found to be formed of a circular wall of stones, but are now covered with turf and dwarf gorse or fern. These walls generally enclose a space of from 15 to 20 ft. in diameter, with a doorway or opening always facing the south-east, and having two large upright stones about 4 or 5 ft. high as door-posts. These sites of ancient habitations are usually in clusters of five or more, but at Ty Mawr on Holyhead Mountain they form a considerable village of more than fifty huts, still to be distinctly traced. These villages are usually placed in positions sheltered by rising ground from the north-west winds, and are generally protected from hostile attack by rude walls of dry masonry or by precipitous rocks. Such remains of circular habitations have, time out of mind, been called *Cyttiau'r Gwyddelod*, or Irishmen's Huts; but, as Rowlands in his *Mona Antiqua* observes, this is a vulgar error, if by *Gwyddelod* be meant the inhabitants of Ireland, who never inhabited Anglesey so as to have left any remains of their creals and cottages behind them, seldom staying long in it: but, if by *Gwyddelod* be meant aborigines, the first inhabitants, as it is not unlikely it may, for the two words that make up that name are purely British, viz. *Gwydd* and *Hela*, *i. e.* wood-rangers, perhaps the common appellation of the aborigines, lost with us and retained only by the Irish, then the objection falls to the ground, and the instance confirms the conjecture that they are the remains of the first planted

habitations while they were destroying the woods and cultivating the country."¹

In connexion with the supposed tradition that would ascribe these sites of dwellings to Irish occupants, I may refer to a very interesting memoir in this Journal, on the Cloghauns or ancient habitations, of a similar nature, in the County of Kerry in Ireland, by Mr. G. V. Du Noyer, who states that the Rev. C. Graves, D. D., now Bishop of Limerick, informed him, during the meeting of the British Association at Dublin in 1857, "that he was acquainted with a Welsh poem of undoubted antiquity and authenticity, wherein was given a description of the earliest stone houses erected in Wales. It was stated that in the time of Caractacus, the Welsh cut down all their great forests in order to render their country less tenable to the invading Romans; and, as they had hitherto constructed their houses of wood, when this timber failed them they adopted the Irish form of stone houses, that of the bee-hive, constructed of dry masonry, a mode of building hitherto unknown in Wales. This interesting record fixes the date of the Welsh Cloghauns, and affords us strong evidence of the antiquity of that form of house in Ireland."²

We have also numerous vestiges of such ancient habitations in various parts of England, amongst which may specially be cited a similarly constructed bee-hive hut, to be seen in Cornwall, at Bosphrennis, in the parish of Zinnor.³

The circular form for their dwellings seems to have been almost universally adopted by the earliest races of men in all countries. The nomad tribes of the East, the earliest of all, formed their circular tents with a few poles, probably covered with skins before the invention of cloth made of camel's hair, removing their tents from time to time as they required fresh pasture for their flocks and herds. The

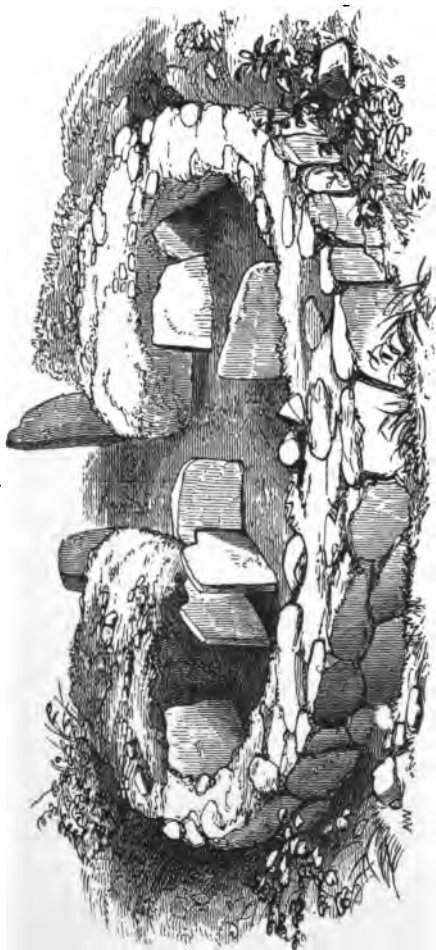
¹ Rowlands, *Mona Antiqua*, p. 27.

² *Archæol. Journal*, vol. xv. p. 22. A writer in the *Archæologia Cambrensis*, vol. v., third series, p. 307, criticised somewhat severely the suggestion received from the learned prelate, as above stated, by Mr. Du Noyer, whose reply is given, *ibid.* vol. vi. p. 148, where he cites as his authority the curious Tale published in the *Iolo MSS.* by the Welsh

MS. Society, entitled "The account of Caradoc." The Poem is doubtless, as Mr. Du Noyer observes, not of "undoubted antiquity;" but the description given in it of the bee-hive stone hut is so perfectly applicable to that of the cloghaun, that it well merits the attention of the antiquary.

³ *Arch. Camb.* vol. ix., third series, p. 120.

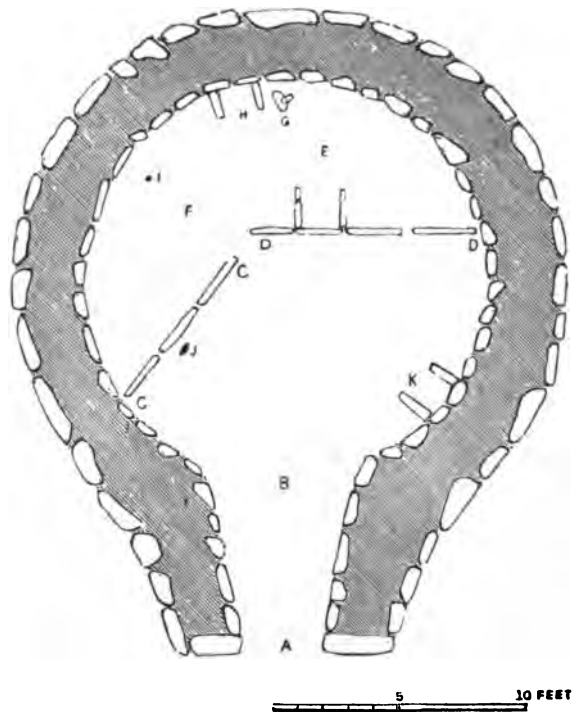
ANCIENT CIRCULAR DWELLINGS IN HOLYHEAD ISLAND.



Hut-Circle, one of the Cyttiau'r Gwyddelod, at Ty Mawr, on Holyhead Mountain; on the estates of the Hon. W. O. Stanley.

Excavated in 1862.

ANCIENT CIRCULAR DWELLINGS IN HOLYHEAD ISLAND.



Ground-plan of a Hut-Circle at Ty-Mawr, excavated in October, 1862.

A. Door-posts and entrance, width 3 ft. B. Passage into the hut, width 6 ft. C C, and D D. Partitions of upright slabs. E. Cooking chamber and fire-place. F. Chamber at the corner of which lay a grinding-stone, G, near a fire-place, as supposed, H; also a spindle whorl, I. J. A second grinding-stone. K. Supposed fire-place.

From measurements by Mr. T. P. Elliott, of Penrhos.

savage tribes also of Africa, the wild Indians of America, the Islanders of the Pacific, the inhabitants of New Guinea, who construct circular houses on platforms over the water, like the ancient lake-dwellers on the Swiss lakes, the Esquimaux, with his ice-formed hut, and the Lapp, all adopt the circular form to this day. An ancient race of men scooped out circular holes in the chalk and gravel near Salisbury, covering the top with wattle and baked clay. When man in his rude state only required shelter from the heat or inclemency of the weather, the circular form was the easiest of construction, and also the best suited to resist the force of wind and rain, or even the attacks of wild beasts. The one entrance gave sufficient light, and the cooking was either conducted outside in pits, or the boiling was contrived within the hut, by means of hot stones, heated outside the dwelling and then placed in a raw skin filled with water, or, as civilization gained ground, in rude earthen vessels, which, in early times, may not have been sufficiently hard and well baked to bear exposure to the open fire.

In the autumn of 1862, Mr. Albert Way being with me at Penrhos, I directed two or three of the circular huts at Ty Mawr to be cleared of the turf and stones from the fallen roof which filled the interior. On clearing out one of the most perfect of those circular mounds, which stood by itself apart from the other clusters of huts, we found that the interior had been divided across the centre by a line of flat stones placed upright in the ground on the floor of the hut. They were about 2 ft. high, 2 in. thick; there was a passage left in the middle and to the right, on entering the space inside this division, there was a square fire-place, formed on two sides by flat stones or jambs placed at right angles to the division before mentioned, and forming the back of the fire-place. It was about 18 in. wide, and 2 ft. deep, open in front. When first discovered, it was half filled with round stones and flat pebbles about the size of the hand, which had been collected from the sea-shore; all these had the undoubted marks of having been heated in the fire. There was also the appearance of great heat having been applied to the sides and back slab of the fire-place, but we noticed no remains of charcoal or ashes mixed with the stones. On the right of the fire-place, in a niche made in the outer wall of the hut we found some handfuls of limpet and periwinkle shells, no

doubt relics of the food of the inmates. A saddle-shaped quern of coarse grit (see woodcuts), and two rubbing-stones or grinders of the same grit-stone, were found on the floor of the hut; also a small perforated circular stone, about one inch in diameter, of the kind usually supposed to have been whorls for spinning. A core of hard trap had the appearance of having been chipped to obtain flakes for arrow-heads; and here and there other stones had indications on them, as having been used as hones for sharpening celts or other instruments for pounding substances used as food, or breaking bones to extract the marrow. All these relics seem to indicate a Stone Age of very early date. No fragments of pottery or iron were found.

In the other huts excavated there was no sign of any division in the centre or of any fire-place.

In the year 1832, the tenant of Ty Mawr farm, Hugh Hughes, on removing some of the large stones near the huts, found underneath them a considerable number of bronze spear-heads of different forms and sizes; also well formed bronze celts, axe-shaped and socketed, with rings of various sizes, armlets, and a great many red amber beads. Representations of the most interesting of these relics accompany the present memoir.⁴

The situation of this village is on the south-west slope of Holyhead Mountain, above Ty Mawr farm, and extending from the road and gate leading to the South Stack Light-house, about 600 yards towards the east. It is well sheltered from the north by a steep face of rock and the flank of the mountain. An accurate survey has been made by my agent, Mr. T. P. Elliott: about fifty circular huts are easily traced, as marked on the plan, but there are indications of many more which have been nearly obliterated by the cultivation of the land and by removal of the stones for building walls as fences. These dwellings are placed—some singly, some clustered together—without any regular plan; some have smaller circular rooms attached, without a separate external entrance, similar to those described in the Kerry cloghauns, which the Irish call dog-kennels, and very

⁴ The discovery has been noticed *Archæol. Journal*, see vol. vi. p. 237; and in the *Archæologia*, vol. xxvi. p. 483. It deserves notice that a stone mould for casting spears and celts of similar fashion

to some of those disinterred at Ty Mawr has occurred in Anglesey; it was found between Bodwrddin and Tre Ddafydd, and is figured *Archæol. Journal*, vol. iii. p. 257.

probably the dogs for the chase were kept in them. The entrance is always facing the south-east, and many of the large upright door-posts are still standing.

The village is placed on a flat terrace of ground, about 60 yards wide on the north-east, but double that width on the south-west. An almost perpendicular cliff, about 25 ft. high, defends it on the mountain side to the north. The ground falls, in several gradual slopes, towards the south, from which there is a grand view over Anglesey, bounded by the Carnarvonshire range of mountains, from Bardsey to Penmaen Mawr, Snowdon with its triple head towering in the centre. The sea, with the Irish coast and the Wicklow mountains frequently visible, bounds the west.

Advantage had been taken to defend the village against hostile attack from below. Each slope has terminated in small rocky ridges, which have been strengthened by a double wall of rough stones, as is common in most of the fortified places in Anglesey and Carnarvonshire; flat stones being fixed in the ground in two rows, and smaller stones built in between. On each flank of the village there is a rather steep conical rock, also with the appearance of having been strengthened by a surrounding wall at the base; and on the larger one to the west there are the remains of circular dwellings. These two mounds, thus fortified, defend each flank of the village. On the east end, where the huts cluster thickest, are two well-formed natural bastions, also strengthened by a wall, and between them a grassy slope leads to the lower terrace, apparently enabling the inhabitants, if forced from the lower slopes, to retreat under cover of these defences into the main stronghold.

There are traces moreover of a line of defence which I have noticed at Inys Benlas,⁵ a remarkable detached rock on the shore to the south-west of the huts, by Tyn y Nant, crossing the road above Ty Mawr farm-house, and thence by the East end of the village of Cyttiau, along the mountain ridge to Meini Meilion, which is indicated in the Ordnance Map as the site of ancient vestiges, and thus to the precipitous parts of the mountain with the remarkable stronghold on its summit. These traces are indicated by Mr. Elliott in the survey that accompanies this memoir. Possibly they may have some connection with the ancient approach from

⁵ Pen, signifying head; las, glass, or green.

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the shore, which is mostly hemmed in by cliffs and unapproachable rocks along the Western side of Holyhead Island. The most convenient landing-place in this part of the coast may have been at Hên Borth, immediately below the group of hut-circles; a little farther to the South there is a small dangerous bay, shown in the Ordnance Map, and called Porth y Gwyddel. The natural landing-place on the West coast of the Island, however, seems to have been at Porth Dafarch.

No one can examine the whole position without being struck with the skill evinced in the selection of this site for these habitations, and the way in which it is protected against hostile attack; particularly if we take into consideration the rude weapons of offence in those early times, before the invention even of bows and arrows. More recent examination of the ground leads to the belief that the protecting line of defence extended from the steep cliffs above the sea, on the West, to a precipice of the mountain on the East, thus placing the village in connection with the strong fortified camp on the summit called Mur Caswallon.⁶

I am inclined, with Mr. Rowlands, to give a very early date to these structures, and to think that the people who first inhabited these huts were not the Irish rovers, but the aboriginal race of men who first peopled Anglesey. It is, however, probable that these villages were inhabited until much later times; and, as is proved, in similar habitations near the Menai, examined by Mr. Wynn Williams, as noticed hereafter, were occupied by the Roman invaders in the first century. The Irish, we know, made their incursions into Anglesey frequently during the third and fourth centuries, until finally driven out by Caswallon; he defeated their chief, Cerigi, who was killed at Holyhead A.D. 450. Up to the year 900, the Irish and Danes made frequent raids into Anglesey, but it does not seem certain that they ever formed a permanent settlement in the island.

It will be observed, on reference to the description of the Irish cloghauns by Mr. G. V. Du Noyer, that he could never find any trace of a fire-place or a window. Dr. Petrie, in his Inquiry into the Round Towers of Ireland,⁷ attributes

⁶ This is a misnomer, the proper name is *Caer y Tur*. Carwallon built a wall round *Caer Gyll*, Holyhead Town. about

450, A.D., possibly the wall round the church-yard.

⁷ The Ecclesiastical Architecture of

the erection of the circular cloghauns to the Firbolg and Tuatha de Dannan tribes who inhabited the country long prior to the introduction of Christianity.

On examining the present state of the Cyttiau'r Gwyddelod, it is difficult to decide with certainty whether the huts were built in bee-hive form with a stone roofing, like the Irish and Cornish huts, or covered with timber-poles and sods over them; some persons are inclined to think, from the quantity of stones that have fallen into the huts, that they may have had stone roofs formed of slabs "stepped over," according to the technical term, or overlapping each other and forming a rudely fashioned but very durable dome.⁸

From the small dimension of the huts—15ft. to 20 ft. in diameter inside—it is hardly possible to suppose that the hut opened in 1862, with a division in the centre, could have been used as a dwelling-house; and from the absence of any appearance of a division, or of a fire-place, in the others, I am inclined to think that they used certain huts set apart for cooking—as do at the present time the negroes in Jamaica, who always have huts separate. It has been lately stated that "the negro never cooks in his hut; his fire-place is in the open air, close to his hut; or he has a small kitchen as an outbuilding in his yard."⁹ The gipsy also has his fire outside the tent.

Tylor, in his *Early History of Mankind*, p. 262, informs us that the Assinaboins, or stone-boilers, dig a hole in the ground, take a piece of raw hide and press it down to the sides of the hole, and fill it with water: they then make a number of stones red-hot in a fire close by, the meat is put into the water, and hot stones dropped in until it is boiled. In Ossian's *Fingal* we read:—"It was on Cromla's shaggy side that Douglas placed the deer, the early fortune of the chase. Before the heroes left the hill, a hundred youths collect the heath; ten heroes blow the fire; three hundred chuse the polished stones." This passage is thus explained in a note by M'Pherson:—"The ancient manner of preparing feasts after hunting is handed down by tradition. A

Ireland, anterior to the Norman Invasion; pp. 124, 126. See also Dr. Petrie's *Essay on the Ancient Military Architecture of Ireland*, where the mode of construction used by the earlier colonists is described.

⁸ Having examined a great many huts since this was written, I am almost certain the roof was formed of turfs supported by poles.

⁹ The "Times," April 12, 1866.

pit lined with smooth stones was made; near it stood a heap of flat stones of the flint kind. The stones as well as the pit were properly heated with heather; they then laid the venison at the bottom, and a stratum of stones above it, and this they did alternately until the pit was full; the whole was then covered with heath to confine the steam."¹

It is almost useless to multiply instances, such as the mode by which the South Sea Islanders and other nations cook their pigs and animal food.²

The peculiar form of fire-place discovered in the hut at Ty Mawr, the round and flat stones half filling it, large heaps of stones outside the hut, all bearing marks of having been intensely heated in fire—just those which would be used for stone-boiling or cooking in pits—all would point out that such had been the custom of cooking their food practised by the early inhabitants of these huts. If we consider the small size of the dwellings, and if like the Irish and Cornish huts they had no aperture at the top, it would have been almost impossible for the inmates, without suffocation, to have made a fire inside of wood, heath, or gorse. We may therefore conclude that the larger animals were cooked in pits outside, but that shell-fish, or small portions, were boiled or roasted on hot stones, and that such grain as they possessed was roasted, and ground by the querns, inside the dwelling.

The remains of four of these clusters of huts are or were to be seen near Holyhead; namely the one here described at Ty Mawr; another, at Porth Namarch (Ordnance Map), on the north-east side the mountain, now destroyed by the extensive quarries for the Breakwater; and a rather large colony at Inys Llyrad (the Island by the Ford), on the Anglesey side of the Penrhos river, halfway between the Stanley embankment and the Four-mile Bridge. This island at high water is quite surrounded by the sea, and two hundred years ago it was the only approach to the Island of Holyhead at low water, by crossing the ford below to the Mill Island, on the Holyhead side of the stream. There is a small steep conical island, about a quarter of a mile S. W.

¹ The "milk-stones," described by Sir C. Jervoise, Bart., in *Arch. Journal*, vol. xx. p. 371, may be vestiges of some similar practice amongst the ancient inhabitants

of Hampshire.

² See Sir J. Lubbock's *Prehistoric Times*, p. 380, and Tylor's *Early History of Mankind*, p. 266, &c.

called Inys Benlas, or Inys Swyddog (the Soldiers' Island). It bears the appearance of having been used as a fortified post, and, from the large number of loose stones which have been collected at the top, may afterwards have been a cairn or burial-place, or perhaps a watch-post for fire-signals to warn the Ty Mawr village of hostile attacks. There is also

the appearance of a small cluster of huts at Plas, in lower ground, about half a mile to the South of that place, but recent cultivation has nearly obliterated all the circles.

There seem to have been huts both of square and circular form; this ancient village has been strongly protected by natural ravines and stone walls. Here also are two large upright stones, or Meinihirion, about 11 ft. high. Tradition says that a large coffin was found between them, composed of several flat stones and en-

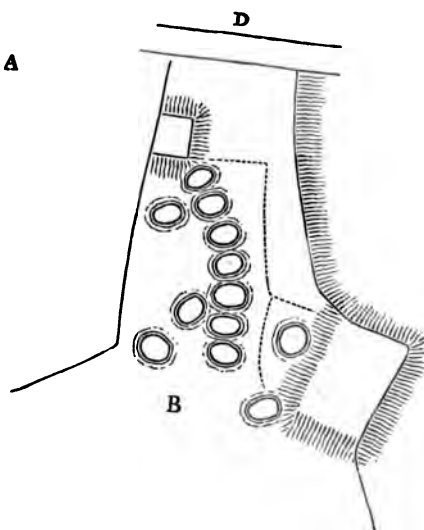
closing remains of bones, with spear-heads and arrow-heads, but I am unable to obtain accurate evidence of the facts.

If we suppose all these four villages to have been inhabited at the same time, giving five persons to a family or hut, and that there were 200 huts, we should have a large population for so small a district; probably at that time proximity to the sea gave the means of subsistence, and the interior of Anglesey was dense forest, bog, and waste land, when the Romans invaded it.

Q
C

Q

A



Group of Hut-circles at Plas.

A. Farmhouse at Plas. B. Hut-circles and earth-works.
C. Erect stones or Meinihirion (height 11 ft.) D. Road to Holyhead.

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That the bronze weapons found in the huts at Ty Mawr, being objects mostly of Irish type, should be regarded as a convincing proof that they were inhabited by the Irish rovers, may, I think, admit of a doubt. The discovery might be explained (as they were all found in a heap in one spot) by the conjecture that they were the spoils of the Irish after some defeat—perhaps that of Cerigi at Holyhead, by Caswallon. Still we must remember that a mould has been found in Anglesey for casting spear-heads and celts of the same form as these found at Ty Mawr.³

On the summit of Holyhead Mountain are the remains of a wall of defence, composed of very large unhewn stones, from 10 to 15 ft. high, in places where the natural face of the rock is not sufficiently precipitous. It has a well-constructed and defended entrance facing the south-east. The wall is called Mur Caswallon, and is marked in the Ordnance Map as *Caer Gybi*. It enclosed a space of sixty or more acres, and probably was the place of refuge against invaders, the cattle being driven up there for safety. The Romans may have used it, as some gold coins of Constantine were found on the east side of the fortress, about 1820, by a person digging turf. At Penrhos, in 1852, a small copper coin, also of Constantine, was found a foot below the surface of the ground. The reverse, under two armed soldiers with helmets and spears, each with a trophy before them—*TRS.* and *GLORIA EXERCITUS*—denotes that the coin was struck at Treves in honour of the victorious army. Several other coins and vestiges of the Romans have been found from time to time near Holyhead.

Just below Ty Mawr, at Pen y Bonc, a curious jet necklace was found in a rock-grave (see the accompanying woodcuts).

The Rev. W. Wynn Williams has examined and described several circular habitations and fortified places near the Menai.⁴ One, at Porthamel, on the top of a limestone rock, is defended by a wall through which there is a well-defined entrance; within are 16 or 17 circular huts or foundations; another group exists at Llangeinwen.⁵ All these habitations and camps have certainly been used by the Romans,

³ See *Arch. Journal*, vol. iii. p. 257; vol. vi. p. 385.

⁴ *Arch. Camb.* vol. iii. N. S. p. 209.

⁵ *Ibid.* vol. ix., third series, p. 278.

as coins and Samian pottery are found on excavation. It is highly probable that the Romans took advantage of these fortified villages to shelter and defend themselves from the natives after their battle on crossing the Menai Straits. Probably the island was held in subjection by small detachments on the Menai, also at Holyhead and its neighbourhood close to the sea. No remains, that I have heard of, are found of any villa or permanent abode. A Roman road crosses Anglesey from Porthamel to Holyhead, by Four-mile Bridge, near which is *Caer Helen*, a Roman camp. It is believed that the Romans worked the *Amlwch* copper mines. Old workings have been found, and stone boulders from the sea-shore, now in the British Museum, for breaking the rock. It is probable that the miners lighted fires of brushwood; when the rock was heated, they threw water upon it, and with these stones detached the rock. The only object of metal known to me as having been found is a small pointed piece of bronze in old workings at *Llandudno*; it was sent to me by Lady Erskine of *Pwlycrochan*, near *Conway*, and was exhibited by her permission at a meeting of the Institute in 1850.⁶

The Romans brought no doubt a certain amount of civilisation with them; but in ancient records we read that after the Romans left the country the Druids returned to *Mona*, and exercised their Pagan rites of worship, when driven by the early dawn of Christianity from other parts of Britain. About the year 600 *St. Kybi* was established at Holyhead,⁷ with other anchorites, who may probably have founded the numerous chapelries, *Capel y Llochwyd* near the top of the mountain, towards the precipitous northern side of the Island,⁸

⁶ Possibly the end or tip of a small ingot. See notices of this and other relics of metallurgical operations in North Wales, *Arch. Journal*, vol. vii. p. 68. In the Museum of Practical Geology, Jermyn Street, London, there is a stone maul from the Old Mine, *Nant-yr-Arian*, *Aberystwith*; also a number of stones with shallow basins and "buckering" stones, for pounding ore. These are from ancient workings in *Cardiganshire*.

⁷ A.D. 580, *St. Kebius* flourished and founded a monastery at *Caer Guby*. See notices in *Dugdale's Monasticon*: edit. *Caley*, vol. vi. p. 1475.

⁸ The site of *Capel y Llochwyd* (*loxyd*, wilderness) is now marked by a

heap of shapeless ruins. Not far distant there is a remarkable precipitous gulley, or crevice, through which a dangerous path descends to a spring of fresh water near the shore. The spot is indicated in *Speed's Map*, 1610—"Chap. *Yloughwid*." Amongst many wild traditions connected with this singular place may be mentioned that of a gold image of a female, with one arm, concealed amongst the ruins of the Chapel; to this popular fable very probably the total overturning of the remains of the little building may have been due. No trace of wall can now be recognised. The deep crevice in the cliff may have served for escapes or for secret access from the sea to the great

12 ANCIENT CIRCULAR HABITATIONS IN HOLYHEAD ISLAND.

Llan Saint Fraid at Towyn y Capel, Capel⁹ Gorlas, and Capel Gwyngena.¹

The singular burial mound at Towyn y Capel, on the margin of a little bay on the western shore of Holyhead Island, has been described in a former volume of this Journal. The large number of skeletons there accumulated in successive tiers, and being it is believed those of adult males only, suggested the inference that they had there been slain in some deadly conflict. It was stated that the corpses had been deposited, not in parallel rows, but radiating from the centre of the mound. It is desirable to correct the erroneous impression thus formerly entertained in regard to the interment. The mound having subsequently become breached by violence of storms, has wholly perished, and the graves have from time to time been seen on all its sides. They may have been about 400 in number.* The bodies had all been placed with the heads towards the west.

Holyhead town, it is believed, was pillaged and burnt by the Irish and Danes about A.D. 900.

With regard to these early habitations of man, of which I have endeavoured to describe so remarkable an example in the foregoing observations, nothing is more difficult than to attempt to fix a date. At Ty Mawr we find only the rudest form of stone implements for the purpose of crushing grain and preparing food, and the remains of shell-fish; also bronze weapons with ornaments concealed in a heap under a stone, which is by no means an unusual circumstance.

The only guide that we have to approximate to the age when these early habitations may have been occupied, will be the nature and substance of the articles found on excavation. We may thus divide the periods. First, the rudest form of stone implements almost entirely used for crushing or pounding food, with a total absence of any sort of pottery or weapons of offence. Next we have rude remains of

fortress on Holyhead Mountain, to which it might form a sort of covered postern. Moreover, the remarkable supply of fresh water to be thus obtained could not fail, in times of extremity, to be of much value either to the anchorite or to the occupant of Mur Caswallon.

⁹ Arch. Journ., vol. iii. p. 226. In the map engraved by Hondius, 1610, and

given by Speed, this remarkable spot is shown as "Llansanfraid," namely, church of St. Bride, by whom doubtless the small oratory on the summit of the mound was dedicated.

¹ Is not this the ancient name of Rhoscolyn—Gwainfain, as mentioned in an old document, *t. Edward IV*?

pottery, bronze and stone weapons, with flint arrow-heads, by their form adapted for the defence of man against hostile attacks of man, and also for the destruction of savage beasts or the larger animals for food.

At a later period we find, at Fisherton near Salisbury, in the caves of the South of France, and the Pfahlbauten of the Lakes of Switzerland, a higher state of civilisation ; pottery with some attempt at ornament, rude drawings of animals on bones, nets, also twine, needles for sewing, barbed arrow and spear-heads, very similar to those still used by the Esquimaux or South Sea Islanders. Yet, in the vestiges near Salisbury, the relics of the Lake-dwellers in Switzerland, or in those of the inhabitants of the Caves in France, we do not recognise weapons of war until the Bronze or iron age.

In many of these early habitations in England and Wales, Scotland and Ireland, there is all the appearance of successive occupation, more particularly exemplified in the recent excavations of ancient subterraneous structures by Mr. S. Laing, M.P., in Caithness, the lowest portion of which exhibits the features of the Cyttiau in Wales such as rude stone implements and remains of shell-fish.

We may, I think, surely place the probable occupation of these Holyhead habitations in the earliest of these periods.

With these few remarks, I must leave this interesting question to be solved by others more experienced and more learned than myself.

NOTICES OF RELICS FOUND IN AND NEAR ANCIENT CIRCULAR
DWELLINGS EXPLORED BY THE HON. W. O. STANLEY, M.P.
IN HOLYHEAD ISLAND.

THE vestiges of habitations of the early occupants of the British Islands present possibly a greater amount of instructive evidence than any other class of pre-historic remains, with the exception only of sepulchral depositories. They have, however, been little appreciated ; it is only in very recent times that circular hut-foundations, pit-dwellings, the strange subterranean structures that abound in many districts of our country, where such traces of its ancient inhabitants have not been effaced by the progress of agriculture and improvement, have at length been systematically investigated. Having been so fortunate as to witness the examination of the hut-circles on Holyhead Mountain, the lively interest with which I have followed Mr. Stanley's researches enhances the gratification that I feel in offering a few remarks on certain ancient relics discovered at Ty Mawr, as related in the memoir for which the Institute is indebted to his kindness.

The excavation carried out in the autumn of 1862 was comparatively unproductive as regards the relics brought to light, which are inferior in variety and interest to those, hereafter noticed, previously obtained in the immediate neighbourhood. It is remarkable that no trace of metal, no weapon or personal ornament was noticed in the explorations ; they were, however, repaid by the suggestive evidence that we obtained regarding the internal arrangements of such primitive dwellings, and the daily life of their occupants. It must be remembered that the mere rudiments of the hut-circles had been spared, concealed in shapeless hillocks that had long served as stores of material for any required purpose, in preference to the more laborious resource of quarrying stone on the adjacent mountain. I was assured by the old tenant, Hugh Hughes, that he well remembered

the circular walls of some of the cyttiau standing as high as his shoulder; they had been heedlessly demolished to form the adjacent fences on the farm, to which he came in 1814.

The first remarkable relic disinterred was one of the primitive stone appliances for triturating grain (see wood-cut, fig. 1); it lay in the part of the dwelling that appeared to have been a cooking-place, and consisted of a slab of coarse-grained stone, the mill-stone grit possibly obtained near Bodorgan, in Anglesey, measuring $18\frac{1}{4}$ by $13\frac{1}{2}$ in., the greatest thickness being about 5 in. Its upper surface was considerably hollowed away in the course of grinding; an oval rubber, measuring 12 by 5 in., flat on one face and convex on the other, lay near it. A second similar "runner" or grinding-stone, of granite, measuring $9\frac{1}{2}$ by $3\frac{1}{4}$ in., was subsequently found. The simplest and doubtless most ancient mode of preparing any grain for food was by crushing it, probably after being parched, between two stones; convenience must soon have suggested that the lower stone should be hollowed, so that the grain might not escape, and that the muller should be so shaped as to be readily held and passed backwards and forwards by the hands.

It has been truly observed by Sir. W. R. Wilde, in reference to such a primitive appliance, that "when we consider the immense length of time that all nations, acquainted with the use of corn, have known how to work the rotary quern, this must be indeed an implement of extreme antiquity."¹ It were of no slight interest if we could ascertain what were the earliest cereals cultivated in Anglesey, and ground for the food of the occupants of the cyttiau under consideration.²

Some examples of "grain-crushers" resembling that found at Ty Mawr have occurred in Anglesey. One, of precisely similar fashion, was exhibited at the Bangor Meeting of the Cambrian Archæological Association by the Rev. W. Wynn Williams; it is figured in their Journal.³ The two portions

¹ Catal. Mus. Roy. Irish Acad.; Stone Materials, p. 104, where an example of a similar kind of grain-rubber is figured; it is of sandstone, measuring $16\frac{1}{4}$ by 11 inches, and has a singular perforation at the side. There are other specimens in the museum at Dublin. I am indebted to Mr. Shirley for a notice of such "saddle-shaped" grain-crushers of larger dimensions, found in Ireland, measuring in length from 30 inches to about 3 feet.

² It is asserted as well established that wheat, and probably also oats and rye, were grown in Ireland long before the Christian era. See Dr. O'Donovan's Essay on the Antiquity of Corn in Ireland; Dublin Penny Journal, vol. i. p. 108.

³ Arch. Camb., vol. vii. Third series, p. 40. See at p. 245, *ibid.*, a letter relating to this "grain-crusher" by Professor Babington, who states that he had

of this object were found together in a wall on the land of Tre-Ifan, near the River Braint in Anglesey; this wall on one side forms the boundary of a village or group of *cyttiau*. Mr. Williams had found no other perfect specimen; but he possesses not less than sixteen portions of the lower stones, and eleven of the rubbers, some of them adapted for grain-crushers of larger size than that above-mentioned, the dimensions of which are as follows:—Lower stone, length 19 in., breadth 13 in., thickness 8 in.; upper stone, length $16\frac{1}{2}$ in., greatest breadth $7\frac{1}{2}$ in., thickness $3\frac{1}{2}$ in. This last is carefully tapered, both ends alike. On one of the broken lower stones there is a shallow cavity, width 5 in., which may have been intended to receive the flour. Mr. Wynn Williams observes that he does not consider these "grain-crushers" to have been the most primitive appliances used in preparing cereal food; he is disposed to consider the simple mortars, that are of more rude workmanship, as having been the first means used for pounding grain. Of these he possesses many specimens, found in the parish of Menaifron and other parts of Anglesey; they measure from 12 to 2 in. in diameter.⁴

These relics of the occupants of Mona at a remote period are highly curious. It is almost unnecessary to remind our readers that similar crushing-stones have been used, and are still employed amongst uncivilized tribes in various parts of the world.⁵

obtained, at Anglesey Abbey in the fens of Cambridgeshire, a similar pair of stones, now deposited in the museum of the Cambridge Antiquarian Society; they are very rude, and show no attempt at finish, although well fitted for the required purpose. He believed that Mr. Wynn Williams' specimen and that found in Cambridgeshire were the only examples of this type that had been noticed in Great Britain; but he refers to similar crushers in the museum of the Royal Irish Academy. In the exploration of subterranean chambers at Treveneague, in the parish of St. Hilary, Cornwall, as related by Mr. J. T. Blight, amongst pottery and various relics there was a piece of fine-grained granite, measuring $13\frac{1}{4}$ in. by $5\frac{1}{4}$ in., rubbed down on one of its faces evidently by a muller. It is of the same class of grain-crushers as those found at Ty Mawr and Tre-Ifan, in Anglesey. A rounded stone of the same ma-

terial, diam. $4\frac{1}{4}$ in., with a small depression on each side, was also found. Similar relics have occurred in Cornwall, and they are supposed to have been used in crushing grain. *Trans. Penzance Nat. Hist. and Antiq. Soc.*, 1867, where both the relics above noticed are figured.

⁴ Letter from Rev. W. Williams, *Arch. Camb.* vol. viii., third series, p. 157.

⁵ A "saddle-quern," resembling that found at Ty Mawr, was sent to the museum of the Institute at the Hull meeting, 1867. It was found in the East Riding. Grinding-stones of precisely similar fashion occur on the sites of Pfahlbauten, in the Swiss Lakes. Compare also examples amongst German antiquities; Wagener, *Handbuch*, fig. 117; Klemm, *taf.* 1. An object of the like description was in the Egyptian collection at the recent Universal Exhibition at Paris; this is the grinding-stone and muller used by the Soudan negroes; they

In the course of Mr. Stanley's researches in 1862, several stone querns and mortars were obtained in the neighbourhood that appear to deserve notice, although we cannot claim for them so high an antiquity as may be ascribed to the cyttiau. Three of these objects are here figured. I. A portion of the lower stone, of mill-stone grit; diameter, in its perfect state, about 16 in.; the top of the stone is convex; the hole is seen for insertion of a spindle upon which the upper stone, or "runner," revolved.⁶ This last existed within recent memory, but was lost.—From Glan rafon. II. A small pentagonal mortar, of whin-stone, obtained at Ty Mawr, but probably of times comparatively recent; the basin measures about 3 in. in diameter, I saw two others, likewise of whin, at Penrhos; the cavity in one of these is irregularly oval, measuring 9 in. by 7 in. III. A four-sided mortar, dimensions about 10 in. in each direction, with a small cylindrical grinder, measuring $4\frac{1}{2}$ in. in diameter; the basin is of oval form, measuring about 7 in. longest diameter.—From Pen y Bonc, where the cist enclosing urns and a jet necklace, described hereafter in this memoir, was brought to light. Stone Mortars are not uncommonly found near ancient habitations in Anglesey; several were obtained with querns and other relics by the Rev. W. Wynn Williams at Llangeinwen.⁷

are now at the British Museum, the entire collection having been presented by the Viceroy. In the Christy Museum may be seen another from Natal. Niebuhr describes a similar appliance for grinding millet used by the sailors in the vessel that conveyed him from Sidra; *Deser. de l'Arab.* p. 45. Sir S. Baker thus quaintly notices the apparatus. "I must have swallowed a good-sized millstone since I have been in Africa in the shape of grit rubbed from the moortraka, or grinding-stone. The moortraka, when new, is a large flat stone weighing about 40lbs. Upon this the corn is ground by being rubbed with a cylindrical stone with both hands. After a few months' use half of the grinding-stone disappears, the grit being mixed with the flour; thus the grinding-stone is actually eaten. No wonder that hearts become stony in this country." *The Albert Nyanza*, vol. i. p. 65. The Rev. A. Hume, LL.D., Hon. Sec. Hist. Soc. of Lancashire and Cheshire, informs me that, in a recent journey to South America, he found the triturating stones in full use not only

among the Indians, but among the inhabitants of Spanish origin. It was in full work for bruising maize, whether raw or boiled, at Santiago. In the latter case a paste is formed, which is worked into thin cakes like the Scotch oatcake. Dr. Hume brought home a grinding slab and its rubber from Lota, 283 miles south of Valparaiso. Examples may be seen in the Blackmore Museum at Salisbury, where is also a saddle-quern from the pit-dwellings near that city.

⁶ See notices of various types of querns by Sir W. R. Wilde, *Catal. Mus. R.I.A.*, pp. 105—113, where several Irish examples are figured; also *Remarks on Querns*, by the Rev. A. Hume, LL.D., *Arch. Camb.*, N. S., vol. iv. p. 89; *Memoirs Hist. Soc. of Lancashire*, vol. i. 1848.

⁷ *Arch. Camb.*, third series, vol. ix. p. 280. See *ibid.*, vol. iii. p. 356, a notice of a grinding slab of granite, having a cavity on its upper face apparently for bruising grain by a globular stone. It was found with mullers and other relics in Cornwall.

They may probably have been used for pounding grain or the like into pulp.

It has been stated that, in the same division of the hut, near the spot where the relic figured above was found, there was apparently a fire-place, κ in the ground-plan; it measured about 18 in. by 2 ft.; it may deserve notice that its almost central position in the dwelling would doubtless facilitate the escape of smoke, if, as I am inclined to believe, the roof was of conical form with an opening, probably, at its summit. Two other small fire-places, however, may have existed, as indicated by some marks of fire and traces of jambs noticed against the main circular wall of the building—see η and κ in Mr. Elliott's ground-plan. Within and near the little fire-place first mentioned there lay a considerable number of sea-shore pebbles, that had evidently been long subjected to the action of fire, and on careful examination we could not hesitate to conclude that they had been employed in certain culinary operations. I am not aware that in the recent investigation of primitive dwellings, especially in Cornwall and Somerset, in Caithness and other parts of North Britain, any distinct evidence of the practice of "stone-boiling" has hitherto been recorded. Mr. Tylor, indeed, has remarked in his interesting notices of that practice in North America, Kamchatka, New Zealand, and other Polynesian islands, that, "the quantities of stones, evidently calcined, found buried in our own country, sometimes in the sites of ancient dwellings, give great probability to the inference which has been drawn from them that they were used in cooking. It is true that their use may have been for baking in underground ovens, a practice found among races who are stone-boilers, and others who are not."⁸ By such a rude expedient it is certain that, when pottery or other vessels which would bear exposure to fire were unknown, water might be heated in skins,⁹ in vessels of wood or the like, and even in baskets that would hold fluids, by means of stones made red hot in a fire close by, and gradually dropped into

⁸ See Mr. Tylor's sketch of the history of stone boiling, *Early History of Mankind*, pp. 261—268; also the curious tradition related in p. 302. See also Sir John Lubbock's *Prehistoric Times*, pp. 250, 380.

⁹ Capt. Riak, with whom I had the

opportunity of conversing at Penrhos, soon after the investigation of the hut-circles at Ty Mawr, informed us that he had witnessed the process of cooking meat in skins, or "paunch-kettles," in the Brazils, at Buenos Ayres, and Rio della Plata.

the seething liquid. The natives of the Hebrides, moreo v e as we are told by Buchanan, whose history was written about 1580, were accustomed to boil their meat in the paunch or hide of the animal. Many of the stones found in the caves in the Dordogne explored by the late Mr. Christy and M. Lartet, appear, as Sir John Lubbock remarks, to have been used in this manner as "heaters."¹

In Ireland, as I am informed by the Rev. James Graves, such pebbles constantly occur in the remarkable subterranean structures known as Raths, the character of which has lately been so well set before us by Col. Lane Fox.² When they bear no signs of burning, Mr. Graves has been accustomed to regard such round stones as missiles, for use by sling or by hand; the Irish, to this day, as he observes, throw a stone with extraordinary force and truth of aim. But when such stones bear traces of fire, Mr. Graves considers that they had undoubtedly been used in cooking.³ It is remarkable that even in our own days "stone-boiling" is not wholly obsolete. In Carinthia, as the late erudite Swiss antiquary, Morlot, told me, they make a dark brown beer, called Steinbir, by throwing hot stones into the vat or cask; a fact that recalls the account given by Linnæus of Finnish beer called "Lura," prepared by throwing red-hot stones into the liquor instead of boiling it.⁴

In an adjacent part of the hut-circle, F, not far from the fireplace was found, at 1, a stone whorl (fig 2). This little object, which at first sight suggested the conjecture that we had found, in that western part of the dwelling the *gynæcium* or resort of the mistress of the cyttiau, is of a class of relics occurring constantly on all ancient sites: it is of dark red sandstone, and measures about $1\frac{1}{2}$ in. in diameter, $\frac{2}{3}$ in. in

¹ The Rev. W. Wynn Williams, in his account of the remarkable walled enclosure and circular buildings at Penrhos Lligwy, on the north-east coast of Anglesey, mentions the occurrence of numerous sea shore pebbles. These may, however, have been missiles for defence. No appearance of their being calcined is noticed. In kitchen-middings near the shore of Nova Scotia, were noticed, throughout the refuse deposit, with pottery, flint weapons, &c., many sea-beach pebbles, bearing evident marks of the action of fire. *Anthrop. Rev.*, vol. ii. p. 225.

² See *Arch. Journ.*, vol. xxiv. pp. 123, 136.

³ In connection with this very curious

subject may be here mentioned the "Giant's Cinders" in Ireland,—heaps of half-calcined grit stones, called sometimes "the cooking places of the Fenians." They mostly occur, according to Mr. Graves, near water, and in some instances consist of a hundred cartloads, or more, of stones; some are of small extent. He informs me that, as he believes, these were places where the spoils of the chase were cooked, the hot stones being heaped round the carcasses and forming rude ovens. See *Trans. of the Kilkeny Arch. Soc.*, vol. iii. pp. 59, 84; *Gent. Mag.*, June, 1854, p. 627.

⁴ *Tour in Lapland*, vol. ii. p. 231.

thickness. These massive little discs or rudely-shaped beads are commonly designated distaff-whorls, and many examples seem well suited to be affixed as weights to the spindle; there is a considerable collection of such articles in the Museum at Dublin; they have been called by popular tradition in Ireland, "fairy mill-stones," and sometimes by the older antiquarians, "amulets."⁵ They have occurred frequently on the sites of Crannoges, as likewise around the Pfahlbauten of the Swiss Lakes. Some of these discs may be relics of female industry, but I incline to believe with Mr. Franks, that not a few were fastenings of the dress. He remarks, in noticing a specimen found at Haverfordwest, and given in 1851 to the British Museum by Mr. Stokes:—"This is one of those curious objects frequently found in England, but regarding which various opinions have been expressed. By some it has been conjectured to be the *verticillus* of a spindle, from its similarity to such objects found with Roman remains; by others a bead or button. This last opinion seems not unlikely, as very similar objects have been found in Mexico which have certainly been used as buttons." The specimen from South Wales has evidently, as Mr. Franks notices, had a cord passed through it, the edge of the central hole being much worn by friction.⁶ The reader who may care to investigate more fully such relics of female industry, will find abundant information in Dr. Hume's treatise on spindle-whorls, beads and pendants, in his Account of Antiquities found on the Sea-coast of Cheshire.⁷

I might mention other examples of the stone whorl found in North Wales; they present, however, no remarkable variation in their size or fashion. One similar to that above figured is in Mr. Stanley's possession at Penrhos. It was found in Anglesey, in the parish of Llanynghenedl, and not far from Ynys Llyrad, where, as before mentioned, a cluster of cyttiau may still be seen.

⁵ There are 70 specimens in the collection of the R. I. Academy. Wilde's Catal., p. 116. The industry of spinning and weaving flax was prevalent amongst the old occupants of the piled dwellings in Switzerland. See Mr. Lee's translation of the Memoirs by Dr. Keller on the Lake Dwellings; London, 1866: Longmans. The form of whorl is somewhat peculiar—one side is mostly flat, the other conical. They are usually of clay.

⁶ Arch. Journ., vol. ix., p. 11. See also

Professor Nilsson's observations on ancient Scandinavian buttons of amber and stone. Primitive Inhabitants of Scandinavia, translated by Sir John Lubbock, pp. 85, 86.

⁷ Ancient Meols, by the Rev. A. Hume, LL.D.; London, 1863, p. 151; where numerous specimens are figured. Notice of several found in Anglesey may be found in the Arch. Camb., vol. vi., third series, p. 376.

A few other relics of stone were brought to light within or in immediate proximity to the hut-circle at Ty Mawr. They consist of an irregularly rounded pebble, that may have been used as a sharpening stone or a polisher; and an oblong four-sided rolled pebble, length about $3\frac{1}{2}$ in., in its general appearance like a rudely-shaped celt, the smaller end being rubbed down, as if for some mechanical use: Mr. Franks informs me that similar pebbles occurred in kjökken-möddings in the Isle of Herm, one of the Channel Islands. Also a rolled pebble of quartzite approaching to greenstone (fig. 3). It may have been a hand-hammer, or used for pounding; each extremity shows effects of much percussion; there are also fractures where flakes appear to have been struck off, such as may have been used for rough arrow-points or the like. It is here figured on a reduced scale. The dimensions are about $3\frac{3}{4}$ in. by $2\frac{3}{4}$, greatest width. I may here likewise notice a ponderous cylindrical muller or grinding-stone of trap (fig. 4), found in an adjacent field in 1866. It measures $8\frac{1}{2}$ in. in length, the girth at the thickest part is $10\frac{1}{4}$ in.; the weight 6 lbs. 2 oz. One end was broken by the finder; the other bears indications of considerable percussion; one side also is somewhat flattened, possibly in triturating grain or other substances. See woodcut, one-third original size. No stone-muller of precisely similar description has come under my notice, and I failed to find any in the Christy collection, so rich in the various types of antiquities of stone. The late Mr. Bateman, in his excavations in Derbyshire, found, on the site of a so-called British habitation, a cylindrical object of stone that he supposed to have been used for bruising grain, and he observes that it resembles one found in an Aztec burial-mound in South America examined by Capt. Nepean.⁸ Mr. Anderson, in his report on cairns and remains in Caithness explored in 1865, describes an "oblong shore-pebble wasted at the ends by use as a pestle."⁹

I may here notice an implement, probably used likewise in the preparation of food, that was found, as Mr. Stanley informs me, a few years since in Holyhead Island, at no

⁸ Capt. Nepean's researches are noticed in the *Archæologia*, vol. xxx. Many of the relics discovered were presented to the British Museum.

⁹ Other similar objects are likewise

mentioned, found in a "Picts' House," Wick. *Memoirs, Anthropol. Soc.*, vol. ii. pp. 228, 231. It is said that these implements resemble some obtained in shell-mounds, at Keiss Bay, in Caithness.

great distance from the vestiges of ancient habitations that he has brought under our notice. This object, now unfortunately lost, was a club-shaped stone pestle (fig. 5), measuring in length about 11 in., and apparently suited for crushing grain or the like, by a process somewhat different to that for which the rubbers or cylindrical stones that have been described were suited. A few other examples of this comparatively rare type of implement are known to me. In the Edinburgh Museum there is a cylindrical-shaped implement of porphyritic stone; the ends are rounded off to blunt points; it measures 11 in. in length, and $2\frac{1}{2}$ in. in diameter; it was found with celts of serpentine, in a cairn at Daviot, Inverness-shire, where, according to tradition, one of Fingal's battles occurred.¹ This seems to have been one of the stone pestles under consideration, that may have served for grinding grain, or possibly as a club in close conflict. There is also one in the Museum of the Chichester Philosophical Society, found in digging gravel on Nutbourne Common in the parish of Pulborough, Sussex, near barrows and sites of primitive habitations. It lay in the mould about 18 in. deep, above and distinct from the gravel. Length $11\frac{1}{2}$ in. diam. 2 in.² Another, of greenstone, found near Carlisle, length 16 in., was in possession of the late Mr. C. Hodgson, of that place. A specimen of this comparatively uncommon implement is also in the Museum formed at Audley End by the late Lord Braybrooke.

It has been stated by Mr. Stanley, that a considerable deposit, chiefly consisting of weapons and implements of bronze, was brought to light in 1832, under some large stones near the cyttiau at Ty Mawr. The discovery was brought under the notice of the Society of Antiquaries by the late Lord Stanley of Alderley.³ The spot is marked in the Ordnance Map. A portion of the south-west flank of Holyhead Mountain, which had been left in waste, was brought under the plough; in removing one of the hut-circles, the relics here figured were exposed to view. It has been suggested that they appear for the most part to bear resemblance to relics of similar description found in Ireland; and this circumstance has been regarded with

¹ Proc. Soc. Ant. Scot., vol. vi. p. 179.

² Catal. Museum formed at the meeting of the Institute, Chichester, 1853, p. 63.

³ Archæologia, vol. xxvi. p. 483. In the Ordnance Map, 1830 is given as the date of the discovery.

interest, in connection with the name and the traditions that would ascribe this fortified village of ancient dwellings to Irish occupants. Whilst recognising certain peculiarities that would lead us to regard some of these relics as of Irish types, it must be admitted that they may have been part of the spoils of Hibernian rovers, by whom doubtless the coasts of Anglesey and North Wales were constantly infested; the evidence of such a casual deposit will scarcely justify any inference that might bear on the supposed Irish origin of the cyttiau on Holyhead Mountain, or on the probability of any permanent Irish occupation of the strong position at Ty Mawr. It may seem more reasonable to suppose that the group of dwellings explored by Mr. Stanley may have been in its original intention an outpost to the great British fortress of Caer Gybi, that crowns the summit of the mountain, and have presented an important defence of the approach on that side, as also in a certain degree of the landing-place and small roadstead below. Here many a deadly conflict must have occurred between the occupants of the island and the rapacious rover, whether Irish, Dane, or Norwegian.⁴

The relics, shown in the accompanying woodcuts, are as follows:—

I. A bronze spear-head, of the leaf-shaped type, beautifully formed, but somewhat decayed, as are also the other bronze objects, by oxidation. Its length is nearly 9 inches, the socket is perforated for a rivet; the blade has feather-edges perfectly worked and symmetrical; the rounded central rib or prolongation of the socket is hollow almost to the point, as shown by a narrow aperture caused by decay of the metal. This weapon closely resembles that in the Museum of the Royal Irish Academy, figured in Sir W. R. Wilde's Catalogue; spears of the same type, however—rarely so skilfully fabricated—have repeatedly occurred in England.⁵

II. A plain, leaf-shaped spear-head, of simpler fashion,

⁴ A short distance to the East of Ty Mawr, on or near the boundary of the ancient village of circular huts, a large stone may deserve notice, being known as "Mein Bras"—Stone of the Copper,—possibly on account of some deposit of bronze or other relics there brought to light at some former period.

⁵ Wilde, Catal. Mus. R. I. A., p. 496, No. 6. Compare an example, somewhat differing in proportions, the socket being very short. It was found in the Thames. *Hornæ Ferales*, pl. vi. fig. 29; also a spear-head found at Nettleham, near Lincoln, figured in *Archæol. Journal*, vol. xviii. p. 160.

the point broken. In its present state, its length is nearly 5 inches; the socket is perforated for a rivet. It may deserve notice, that in deposits where several bronze weapons have occurred together, two or three spears of various sizes have been noticed, as if forming together the customary equipment. On the moiety of a stone mould for casting weapons of bronze, found between Bodwrdin and Tre Ddafydd, in Anglesey, two of the dimidiated matrices were for casting spear-heads, dissimilar however in fashion to those found at Ty Mawr, and, in each instance, furnished with two side loops.⁶

III. A looped and socketed celt, of Irish type, and of unusually good workmanship. Length $4\frac{1}{4}$ inches. A specimen in the Dublin Museum, resembling this celt in its general fashion, is one of those selected by Sir W. R. Wilde, out of a series of 201 socketed celts, as types of the most remarkable varieties of form that the socketed celt assumes. He has described the example in question as "a slender socketed celt, $4\frac{1}{2}$ inches in length, of an irregular hexagon form in the middle, and circular in the slightly everted and decorated socket."⁷ In the example found at Ty Mawr, the termination has a more strongly defined "hatchet face;" the hexagonal form is continued to the mouth; the opening is of irregularly square form. Several other slightly varied specimens have occurred in the sister kingdom.

IV. A small socketed dagger-blade, feather-edged, length somewhat more than $6\frac{1}{2}$ inches, in its present slightly imperfect state. The blade is leaf-shaped, the socket oval, and pierced for a rivet that passed from front to rear, as most frequently found in objects of this description. In some specimens it passed from side to side. This type is distinctly, if not exclusively, Irish, and Sir W. R. Wilde enumerates 33 specimens in the Dublin Museum. He supposes that the pommel was of wood, bone, or horn; the length of

⁶ This mould is figured, *Arch. Journ.*, vol. iii. p. 257. A similar object found in the Co. Limerick, and presented by Mr. de Salis to the British Museum, is figured *ibid.*, vol. xxii. Another stone mould for spears had been found in Co. Galway. *Archæologia*, vol. xv. p. 394.

⁷ Wilde, *Catal. Mus. R. I. A.*, p. 384, No. 406. Compare the celt found at Roscrea, Co. Tipperary, now in the

British Museum. *Horæ Ferales*, pl. v. fig. 11. Mr. Franks describes it as having the sides divided into three facets, the socket oval. A stone mould for socketed celts of similar form, but curiously ornamented, found in Ross-shire, is figured in Dr. Wilson's *Prehistoric Annals of Scotland*, vol. i. p. 346, second edit., and a casting from the mould, *ibid.*, p. 384.

the metal portion varying from $3\frac{3}{4}$ to $11\frac{1}{2}$ inches. The socket is occasionally circular or quadrangular, and ornamented.⁸ Mr. Franks gives, in the *Horæ Ferales*, a specimen with a short oval socket and two sets of rivet holes; it was found at Thorndon, Suffolk, with a bronze gouge and other relics. This specimen, and also two obtained from Ireland, are in the British Museum. In recent excavations of pit-dwellings, at Highdown Camp, Sussex, Colonel Lane Fox found at a depth of 3 feet, a dagger of the same type, $8\frac{1}{2}$ inches in length, the point upwards; the socket is pierced for two rivets. These cavities are cut in the chalk, within the rampart, steps being cut around to descend into the pit.

V. An implement, unfortunately in imperfect state, length, in its present state, $3\frac{1}{4}$ inches; this is doubtless one of the four varieties of the chisel, described by Sir W. R. Wilde, as having a broad axe-shaped blade, a long slender spike or tang, and raised collar, against which the straight wooden handle abutted. There are thirteen specimens of this type in the Dublin Museum, ranging from $2\frac{1}{2}$ to $6\frac{1}{4}$ inches in length.⁹ A specimen from Burwell Fen, Cambridgeshire, is in the Blackmore Museum, Salisbury.

VI. A slight plain penannular armlet, diameter 2 inches, the inner side flat, the outer face of the hoop rounded; one extremity obtusely pointed, the other is slightly dilated, a feature often seen in the gold Irish armlets. These personal ornaments occur in great variety in Ireland; they have been sometimes classed amongst objects regarded as a kind of currency, or "ring money," but no reference to any such mode of barter, as Sir W. R. Wilde remarks, has been found in ancient records. Some of these rings, it is believed, were worn as bangles on the ancles. Usually each end is dilated, and sometimes slightly cupped.¹

VII. Several stout rings, diameter about 1 inch, probably cast in moulds; relics of this class occur abundantly in Ireland, frequently double, and varying greatly in dimensions.² It may be remembered that bronze rings occurred

⁸ Wilde, *Catal. Mus. R. I. A.*, pp. 465, 483. Amongst examples figured, one, No. 218, found in the Shannon, is similar to that found at Ty Mawr. *Horæ Ferales*, pl. x. p. 165. Two Irish specimens are in the Blackmore Museum, Salisbury; also one from Burwell Fen, Cambridgeshire, length 8 in. See also a

similar weapon found with others in Argyleshire, Wilson's *Prehist. Annals*, vol. i. p. 390.

⁹ *Ibid.*, p. 521, No. 75; length $6\frac{1}{4}$ inches.

¹ Wilde, *Catal. Mus. R. I. A.*, p. 570.

² *Ibid.*, p. 577, and following pages. There are not less than 578 bronze rings

in the deposit of relics, mostly of Irish character, found at Llangwyllog, Anglesey, as described in this Journal, and also in the *Archæologia Cambrensis*.³

VIII. Amber beads, of various sizes, and more than commonly symmetrical in form ; diameter of the largest beads somewhat more than an inch. A necklace of amber beads, of large dimensions, was found with the antiquities at Llangwyllog, formerly mentioned.

I proceed to notice a relic of considerable interest found in 1828 at Pen y Bonc (head of the bank) about a quarter of a mile south of the cyttiau at Ty Mawr. It is a necklace formed of jet, or possibly cannel coal, of excellent quality, and highly polished ; it was found, as stated, in a kind of rock-grave—a sepulchral cist, rudely hewn out. Two urns were likewise found in the cavity, but on exposure they fell, as was reported, into fragments, that were not preserved. Unfortunately, a number of the beads, and other portions of which this ornament had been composed, were missing ; they had probably been dispersed when the discovery occurred, a mischance that too frequently happens, such a find being casually brought to light without any supervision. When I made the sketches from which the woodcuts have been prepared by Mr. Blight, I found two end-portions, of which the reverse of one is figured, four oblong four-sided pieces, of which the obverse is shown in one case, and the reverse, in the other, so as to indicate the arrangement by which the intervening rows of beads were adjusted, strung on threads that passed through perforations contrived with considerable ingenuity. There were also many beads, of various sizes ; a triangular object, the intention of which has not been ascertained, and a flat conical button perforated on its under side ; these last may have formed parts of the fastening. Of all these, however, the woodcuts, of the full size of the originals, will supply an accurate notion ; they are accompanied by a representation of a necklace, such as—after careful comparison of other examples—I believe that the ornament in its perfect state may have been. This valuable relic was exhibited at a

of various fashion in the museum of the R. I. Academy, exclusive of finger rings and the like.

³ Arch. Journ., vol. xxii. p. 74 ; Arch.

Camb. vol. xii., third series, p. 97, where notices of amber beads discovered in the British Islands may also be found.

meeting of the Society of Antiquaries, in March, 1844, by the late Lord Stanley of Alderley.⁴

According to the account of this discovery, as given by Hugh Hughes, tenant of the adjacent farm, the rock-grave, in the corner of which the jet necklace lay, measured about 3 feet in each direction; it was covered by a slab of stone. Besides the "crockery," he stated that armlets of bronze were found in the cist; according to another report, there was also a "penny piece," probably a coin. He remembers, moreover, to have seen three or four foundations of houses near the site of this deposit, of rectangular form, long uninhabited; they were formed of large stones, and known as "Ty Adda" and "Ty Eva," Adam's and Eve's Houses, indicating a tradition of the unknown antiquity of these dwellings.

The jet (*gagates*) of Britain was high esteemed by the Romans, and many highly beautiful ornaments exist found in this country with Roman remains. It had been, however, employed at a much earlier period, as we may infer from numerous relics found throughout the British islands, and it is very possible that certain physical or phylacteric properties had been attributed in times long antecedent to the period when Pliny, Solinus, and other writers, described its inflammable quality, its power of attracting small objects, when rubbed like amber, and various recondite medicinal virtues, to which it were needless here to advert.⁵ The most ancient ornaments of jet or of amber that have been brought to light in Great Britain obviously appertain to a period of comparatively advancing civilization and skill in mechanical arts. They sometimes accompany relics of a race conversant with the use of metals, and practised in their manipulation. In the course of the late Mr. Bateman's explorations of barrows in Derbyshire, several necklaces were disinterred closely

⁴ Proceedings Soc. Ant., vol. i. p. 34.

⁵ Pliny, Nat. Hist. lib. xxxvi. c. 19: Solinus, Polyhistor. c. 22. These statements, more or less modified, seem to have originated those given by subsequent writers, down to the often-cited observations of Bede: Hist. lib. i. c. 1. The estimation in which *gagates* was held by the Romans is a circumstance of great interest in connection with the extensive Roman manufactories of armlets and various objects of shale, at Kimmeridge and Worthbarrow, Dorset, the refuse waste

pieces of which were so long a mystery to antiquarians under the description of "coal money." A certain resemblance to jet probably led to these extensive workings in shale in times of Roman occupation of Britain. The problem of "coal-money" was solved by Mr. Sydenham at the Archæological Congress in Canterbury, in 1845. Arch. Journal, vol. i. p. 347. See also the memoir by the Rev. J. Austen in the Transactions of the Purbeck Society.

resembling that found on Holyhead Mountain. In a barrow near Buxton, called Cowe Lowe, several interments without cremation occurred, two of the skeletons being, as supposed, of females ; two sets of beads, described as "of Kimmeridge coal," were here brought to light, with intermediate ornaments resembling those above described and bearing slightly-marked diamond patterns ; there was also a round-ended implement of flint, a kind of scraper, but no object of metal was found. The two necklaces, consisting of not less than 117 pieces, are figured in Mr. Bateman's works.⁶ The contents of this remarkable barrow were of very mixed character. In another barrow near Hargate Wall, encircled by a ring of large slabs, a central cist was brought to light, enclosing unburnt human and animal remains, deposited apparently at various periods, with an armlet and a necklace "of Kimmeridge coal" combined with ivory, a remarkable use of such material, of very rare occurrence.⁷ Of the former substance were oblong beads and conical studs, similar to those found at Pen y Bonc ; with these were intermediate four-sided pieces, and two triangular terminal ornaments, all of them, as stated, of ivory, worked with chevron patterns. Two other necklaces of more elaborate character are preserved in Mr. Bateman's museum at Youlgrave : one of these was found on Middleton Moor, in a barrow that contained a cist, in which lay unburnt remains of a young female and a child : this necklace is described by Mr. Bateman as "the most elaborate production of the pre-metallic period" that he had seen : it is composed of not less than 420 pieces of jet and bone, cylindrical beads, perforated plates, conical studs, etc. In this instance one portion was obtained, in form an obtuse angled triangle, and resembling that found at Pen y Bonc. Mr. Bateman seems to have regarded it as the link by which a very elaborate pendant was attached to the necklace.⁸

⁶ Bateman's Vestiges, p. 92. See also Mr. Roach Smith's Collectanea, vol. v. p. 147.

⁷ Vestiges, p. 89. These beautiful relics are also figured Journ. Brit. Arch. Assoc., vol. ii. p. 234. Another necklace, formed of a material of inferior quality, designated "jet-wood," is described and figured in that Journal, vol. vi. p. 4. It was found in a barrow near Egton, N. Riding of Yorkshire, by Mr. Tissiman, of

Scarborough, and is composed chiefly of oblong beads and conical studs, graduating in size ; the central portion is of jet of the best quality ; it is four-sided, stippled in a lozenge pattern. This interment was accompanied by a ring of "jet-wood," a rudely-shaped object of flint described as a spear, and two flint arrow-heads.

⁸ Ten Years' Diggings, p. 25, where the skeletons in the cist are figured. The skull found in this very remarkable in-

The fourth example obtained by Mr. Bateman lay with three skeletons, a male and two females, deposited on the rock under a barrow at Grindlow near Over Haddon. The interment was accompanied by rude implements of flint. The forms of the various objects of jet, 72 in number, vary slightly from those already noticed ; there is much stippled ornament on the intermediate plates, and one of these is of bone. Of the beads 39 are conical studs, pierced at the back by two perforations meeting at an angle in the centre.⁹ The skill with which so fragile a material, whether shale or jet, was drilled in the construction of these necklaces is remarkable ; it is difficult to comprehend by what kind of implements, in an age possibly anterior to the use of metals, so difficult an operation could have been effected.

Several other examples of these necklaces of jet might doubtless be enumerated.¹ The relics of that material found in the primitive cists and cairns in North Britain, as we are informed by Dr. Wilson, are of frequent occurrence. The circumstances under which they occur, in many instances, lead us to conclude that they are productions of native ingenuity, at an early period, unaided, as some antiquaries have been disposed to believe, by any civilizing influence from intercourse with the Romans. On the other hand, certain specimens unquestionably present evidence of experienced skill and of ornamental fashion, that would associate them with objects of a comparatively late period.² In the Museum at Edinburgh a remarkable necklace of jet may be seen, that has been figured by Dr. Wilson. It closely resembles that found in Holyhead Island, but the chevrons,

terment has been selected for the "*Crania Britannica*," as the type of the British female. See pl. 35 (2).

⁹ *Ten Years' Diggings*, p. 47. *Crania Brit.* 35 (3). In the minute description of this and the preceding example of these necklaces, Mr. Bateman mentions jet as the material. A very good example of the conical stud, similar to those above noticed, but of rather larger dimensions, may be seen in the museum of the Antiquaries of Scotland. It is figured in Dr. Wilson's *Prehistoric Annals*, vol. i. p. 442, second edition.

¹ A jet necklace of somewhat remarkable fashion was found a few years since on the estates of the late Marquis of Waterford, at Ford Castle, Northumber-

land. It had been deposited in an urn, and consisted of beads with four-sided plates described as resembling "miniature hatchets." In a cist on the moor near Old Bewick, in the same county, examined in 1865 by Mr. Langlands and Canon Greenwell, seventy beads of jet were brought to light. The depository was one of a group of cists in a cairn surrounded by upright stones. This "Druidical Circle" may have been the burial-place of a family. In another cist lay a very large urn, of the class usually found with unburnt remains. *Gent. Mag.*, vol. xix., N. S., p. 716.

² *Prehistoric Annals of Scotland*, vol. i. p. 433, second edition.

lozengy, and other ornaments, on the four-sided-portions especially, are stippled with gold. This relic was found at Assynt, Ross-shire, within an urn enclosed in a rude stone cist, in which lay some bones, the evidence doubtless of an interment without cremation. The cist was brought to light in removing a mound of earth, the small dimensions of which, as suggested by Dr. Hibbert, by whom the discovery was made known to the Antiquaries of Scotland, may have indicated the grave of a female.³ Sir Richard Hoare, however, states that he had very rarely found an urn with the remains of a female. Dr. Wilson has noticed other ornaments of a similar description found in North Britain. A necklace of jet and amber beads of different fashion, and probably of somewhat later date, was exhibited in the Museum formed at the meeting of the Institute at Edinburgh in 1856, amongst relics contributed from the Arbutnot Museum, Peterhead; it was found with a celt of black flint, 7 in. in length, at Cruden, on the coast of Aberdeenshire; the jet beads are of oblong form and range from 1 to 5 in. in length.⁴ A precisely similar bead of jet of the same unusual dimensions exists in the Museum of the Royal Irish Academy, and is figured in the catalogue by Sir W. R. Wilde, by whom we are informed that jet as well as amber was extensively used in Ireland, not less than 60 specimens of studs, buttons, and beads being preserved in that collection.⁵ Large rings and armlets of the same material have likewise been found, especially on the sites of stockaded islands or Crannoges.

The occasional combination of portions of bone in the jet necklaces of the type so remarkably exemplified by the specimen found at Pen y Bonc is a circumstance of considerable interest. The contrast of colours was doubtless very

³ *Archæologia Scotica*, vol. iii. p. 49, pl. v., where the various objects of jet are figured. Dr. Hibbert assigned their interment to the Scandinavian Vikings. The fine necklace found at Assynt is minutely described by Dr. Wilson, and well figured, *Prehist. Annals*, vol. i. p. 435. It was exhibited in the museum at the Edinburgh meeting of the Institute with another of like fashion found in a cist near Brechin. *Museum Catal.*, p. 15.

⁴ Figured, *Catalogue of the museum at the Edinburgh meeting*, p. 10. In the centre of a cairn at Rothie, Aberdeenshire, examined in 1864 by Mr. John Stuart, was found a cist enclosing bones,

supposed to have been burnt, an urn, and a necklace of jet, composed of oblong beads, rectangular and triangular pieces; also two beads of amber and a small object of bronze. *Proc. Soc. Ant. Scot.*, vol. vi. pp. 203, 217. In a recent communication, also, to the society by Capt. Courtney, R.E., mention is made of the discovery of a jet necklace in a cairn on the moor near Kintore, Aberdeenshire.

⁵ *Catal. Mus. R. I. A.*, by Sir W. R. Wilde, *Vegetable Materials*, p. 241. Some very large beads of jet, from Mr. Chambers Walker's collection, found in co. Sligo, are now in the museum at Alnwick Castle.

effective ; the use of such luxurious ornaments suggests the conclusion that they must have appertained to a race of no very barbarous conditions. Not only do we find, however, the mixture of bone, or of ivory, if we may so regard the material employed, in one memorable instance recorded by Sir Richard C. Hoare, in an early interment in a barrow at Kingston Deverill, Wilts, beads of jet and of horn with other relics were found with burned bones in a cist cut in the chalk ; there were also more than forty beads of amber, and six oblong plates of the same material, perforated so as to be strung together lengthways, and, when thus combined measuring together nearly 7 in. in length by $2\frac{1}{8}$ in. greatest width.⁶ There can be little doubt that these amber tablets were not intended to be strung together, as figured by Sir Richard Hoare ; the oblong and other beads found with them no doubt had originally been arranged in intervening spaces, in like fashion as in the necklaces of jet already described. It must be noticed that the interment at Kingston Deverill was accompanied by a small ornamented cup and a little brass pin ; the conclusion was obvious that the cist enclosed the ashes of some distinguished female. Ornaments of jet, and more frequently of amber, were of frequent occurrence in the Wiltshire barrows ; they were accompanied in many instances by objects of metal.⁷

The conical buttons or studs, of which specimens occurred at Pen y Bonc, are perhaps the objects of jet most frequently noticed. In a memoir by Mr. Bateman on his researches on the Moors of Derbyshire in 1845, he describes a barrow called Net-Lowe, in which lay a skeleton at full length ; close to the elbow was a large brass dagger, and a pair of

⁶ Ancient Wilts, vol. i. pl. iii. p. 45. In a small barrow near the same spot burned bones lay piled together in an oval cist, with beads of amber, jet, and glass, and a "pair of ivory tweezers," figured *ibid.*, p. 46.

⁷ See especially the large ring, Ancient Wilts, vol. i. p. 239, pl. xxxiv., found with barbed arrow-heads of flint, a dagger of gilt bronze, and other relics, around a skeleton at Woodyates ; also the singular objects, *ibid.*, p. 202, pl. xxv. The frequent mention of objects of "ivory," as found with British interments examined by Sir R. C. Hoare, and also by Mr. Bateman, claims careful consideration. The occurrence of oriental or of African ivory

would imply intercourse with distant lands that it were not easy to comprehend. Morse ivory, or tusks of marine animals, might possibly be obtained on the shores of some parts of the British Islands, or from Scandinavian countries. The expression "bone or ivory," in notices of the relics in question, appears to show some uncertainty in regard to the material, which often it may be difficult to identify. The "ivory" armlet found with a female skeleton near Woodyates Inn, measuring 5 inches in diameter, cannot have been of any ordinary bone obtained in Britain. Ancient Wilts, vol. i. pl. xxxii. p. 235.

studs, that probably had been attached to the dagger-belt. Rude implements and chippings of flint lay around.⁸ Here, as in other interments, relics of jet or shale occurred with objects of metal; they have likewise, as already noticed, frequently accompanied Roman relics in Britain, but in these instances their fashion has, I believe, invariably indicated their Roman origin.⁹

On reviewing all the facts that have been adduced, especially in regard to the female ornaments, of which Mr. Stanley has brought a remarkable example under our notice, I am inclined to agree in the opinion of Mr. Bateman, and to assign such necklaces, with some other relics of jet or shale, to a race that inhabited our island previously to the use of metals—at a period when interment in cists, without cremation, prevailed. This, however, is not in accordance with the opinion of another accomplished archæologist, Mr. Roach Smith, for whose discernment in such questions I have the highest respect; he considers the tumuli in which such necklaces have been found to be probably of early Romano-British origin.

In regard, however, to the discovery at Pen y Bonc and the remarkable ornament that I have described, there can, I apprehend, be no hesitation, although the site is not far distant from the Roman stronghold at Holyhead, in considering the deposit as distinct from any vestiges of Roman date. Objects of jet are comparatively rare in the Principality; a few relics of that material found at Llangwyllog, in Anglesey, have recently been noticed in this Journal; they have been presented by the Ven. Archdeacon of Bangor, in whose parish the discovery occurred, to the British Museum. The objects of stone found in Mr. Stanley's excavations at Ty Mawr have been there also deposited; it were doubtless much to be desired that the neck-ornaments above noticed, and which are not in his possession, should likewise be pre-

⁸ Barrows opened in Derbyshire, in 1845, by Thomas Bateman, jun.; read at the Winchester meeting of the Archæological Association; Winchester volume, p. 209. A similar stud of smaller size is figured, Hoare's Ancient Wilts, vol. i. pl. xxxiv. See in Dr. Wilson's Prehistoric History of Scotland a remarkable example found in Lanarkshire, vol. i. p. 442.

⁹ A *bullæ* of jet found at Strood, Kent, is figured in Mr. Roach Smith's *Collectanea*, vol. i. pl. xi. p. 19, where mention of Roman relics of *gagates* may be found. In vol. v. p. 146, pl. xv., a sculpture at Lincoln is figured, representing a lady wearing a necklace of a type that occurs amongst Roman ornaments of jet found in England.

served in the National Depository, where no relic of the same description is to be found.

ALBERT WAY.

ADDITIONAL NOTE ON SUPPOSED TRACES OF "STONE-BOILING"
FOUND IN A HUT-CIRCLE ON HOLYHEAD MOUNTAIN.

WHILST the foregoing notices were in the press I have had occasion, through the kindness of Mr. Edward T. Stevens, to examine the relics found in pit-dwellings near Salisbury, in 1866, and preserved in the Blackmore Museum in that city. The highly instructive collection there displayed, chiefly in connection with the "Stone Age," and comprising a very important series of ethnological evidence bearing on that obscure period, has been brought together through the generosity of the founder, Mr. Blackmore, with the zealous co-operation of Mr. Stevens, by whose intelligent exertions in the arrangement of the collection archaeological science has been essentially promoted. The singular domed pit-habitations at Fisherton, about a mile west of Salisbury, consisted of groups of circular chambers excavated in the drift gravel, and supposed to have been winter-dwellings of a people whose summer-station was explored by Dr. Blackmore at Petersfinger and Belmont in the same neighbourhood. The first indication of such troglodytic habitations was supplied by the occurrence of calcined flints in large quantities, of which specimens were shown to me by Mr. Stevens; his conclusions seem in accordance with my own, that these burned stones, mostly of a size to be conveniently grasped by the hand, may confidently be regarded as evidence of the practice of "stone-boiling." In corroboration of this supposition, it must be noticed that the pottery, of which abundant fragments were found, seems to have been ill suited to bear exposure to fire; and, as Mr. Stevens pointed out, the inner surface of many portions is coated by carbonaceous matter, suggesting the conclusion that it had been deposited by the charred stones thrown into the vessels, according to the primitive culinary process. No signs of fire or encrustation from smoke upon the roof of the chambers could be perceived; the cooking, may, however, have been carried on outside the dwelling, according to a practice to which Mr. Stanley has adverted. It is hoped that detailed publication of these very curious discoveries by Dr. Blackmore and Mr. Stevens will not be long deferred. The calcined flints, locally termed "milk-stones" in the eastern parts of Hampshire, and brought under our notice by Sir J. Clarke Jervoise, Bart., are probably traces of the practice in question. Arch. Journ. vol. xx. p. 371. The Rev. E. Kell, F.S.A., in a recent memoir on Roman remains near Andover, and the supposed site of *Vindunum*, observes that the neighbourhood teems with traces of earlier times. "The vestiges of the ancient British population are numerous; charred flints, known by the name of 'pot-boilers,' abound. Flint implements, consisting of celts, lance and arrow-heads, sling-stones, &c., have been found on many parts of the surface in this neighbourhood." Journ. Brit. Arch. Ass., 1867, p. 280. Similar vestiges are doubtless to be found on other sites of early occupation.

* * The present Lord Stanley of Alderley has most kindly sent the neck ornaments and bronze celts, spear-heads, &c., to the British Museum. W. O. Stanley, 1870.

ANCIENT RELICS FOUND IN HOLYHEAD ISLAND.

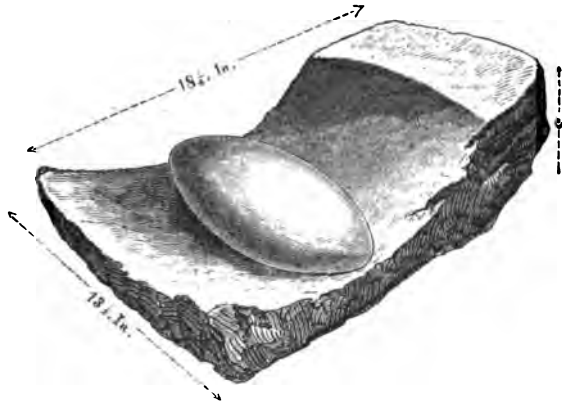
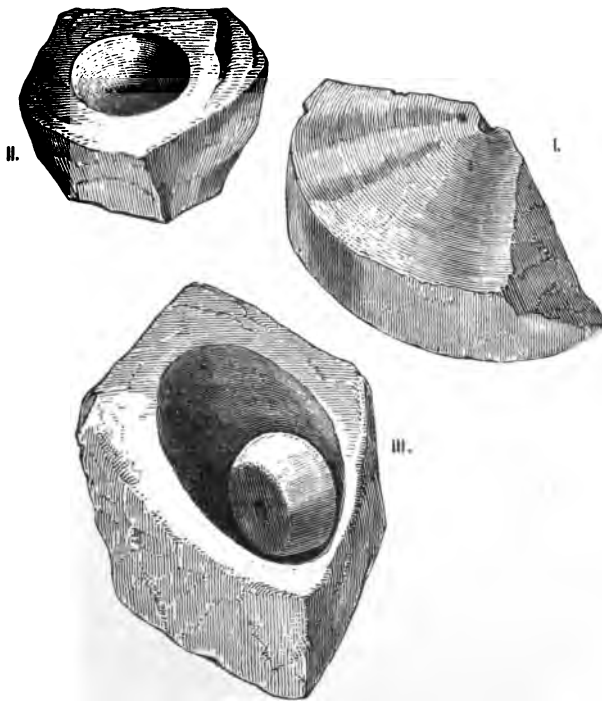


Fig. 1. Grinding-stone and muller found in the Hut-circle, Ty-Mawr.



Fragment of a quern, and two mortars, found in Holyhead Island.

ANCIENT RELICS FOUND IN HOLYHEAD ISLAND.

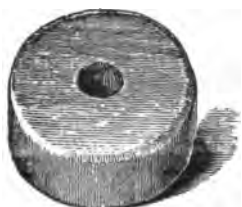


Fig. 2. Whorl of red sand-stone.
Two-thirds orig. size.



Fig. 3. Ovoid pebble from the Cyttiau'r Gwyd
delod, Ty Mawr. One-third orig. size.

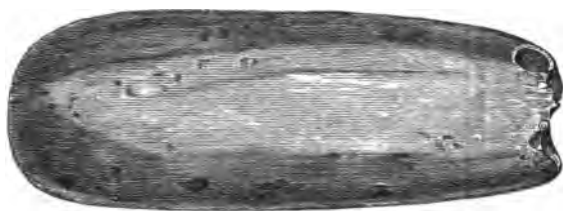


Fig. 4. Cylindrical grinding-stone found near Ty Mawr. One-third orig. size.

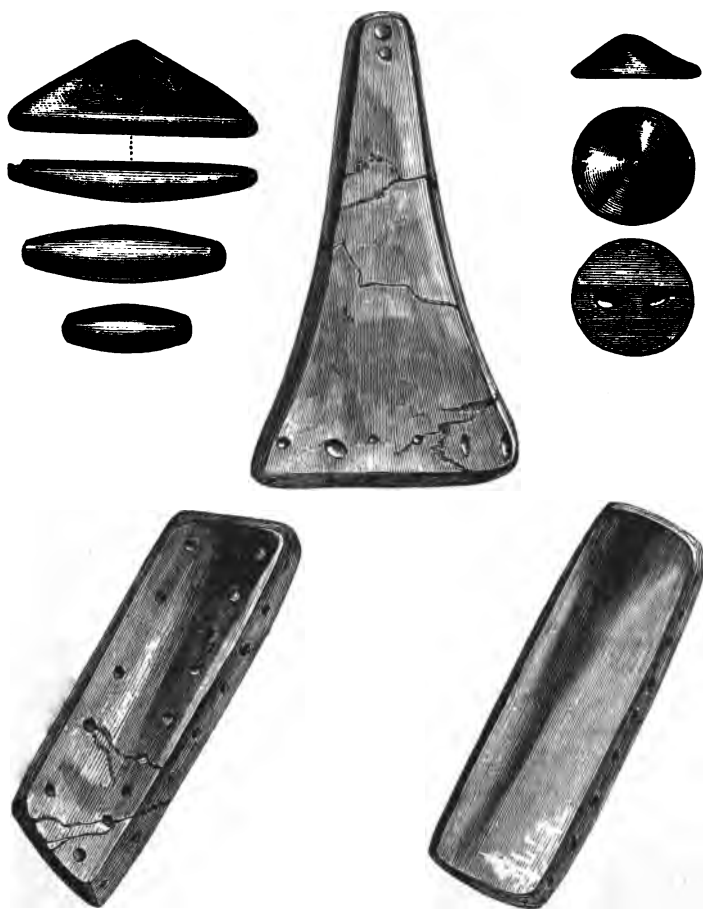


Fig. 5. Stone pestle found in Holyhead Island.



Probable arrangement of the jet necklace found at Pen y Bone, Holyhead Island.

ANCIENT RELICS FOUND IN HOLYHEAD ISLAND.



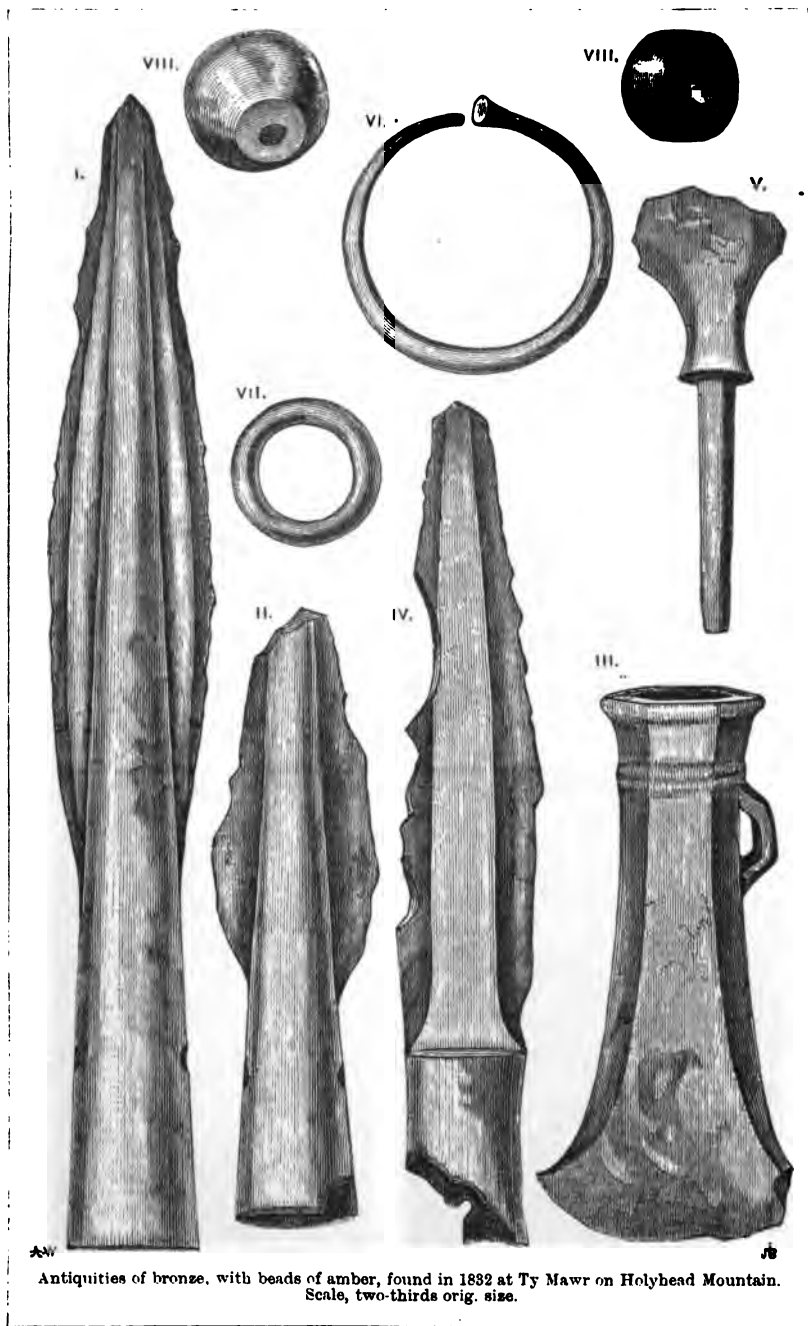
Reverse.

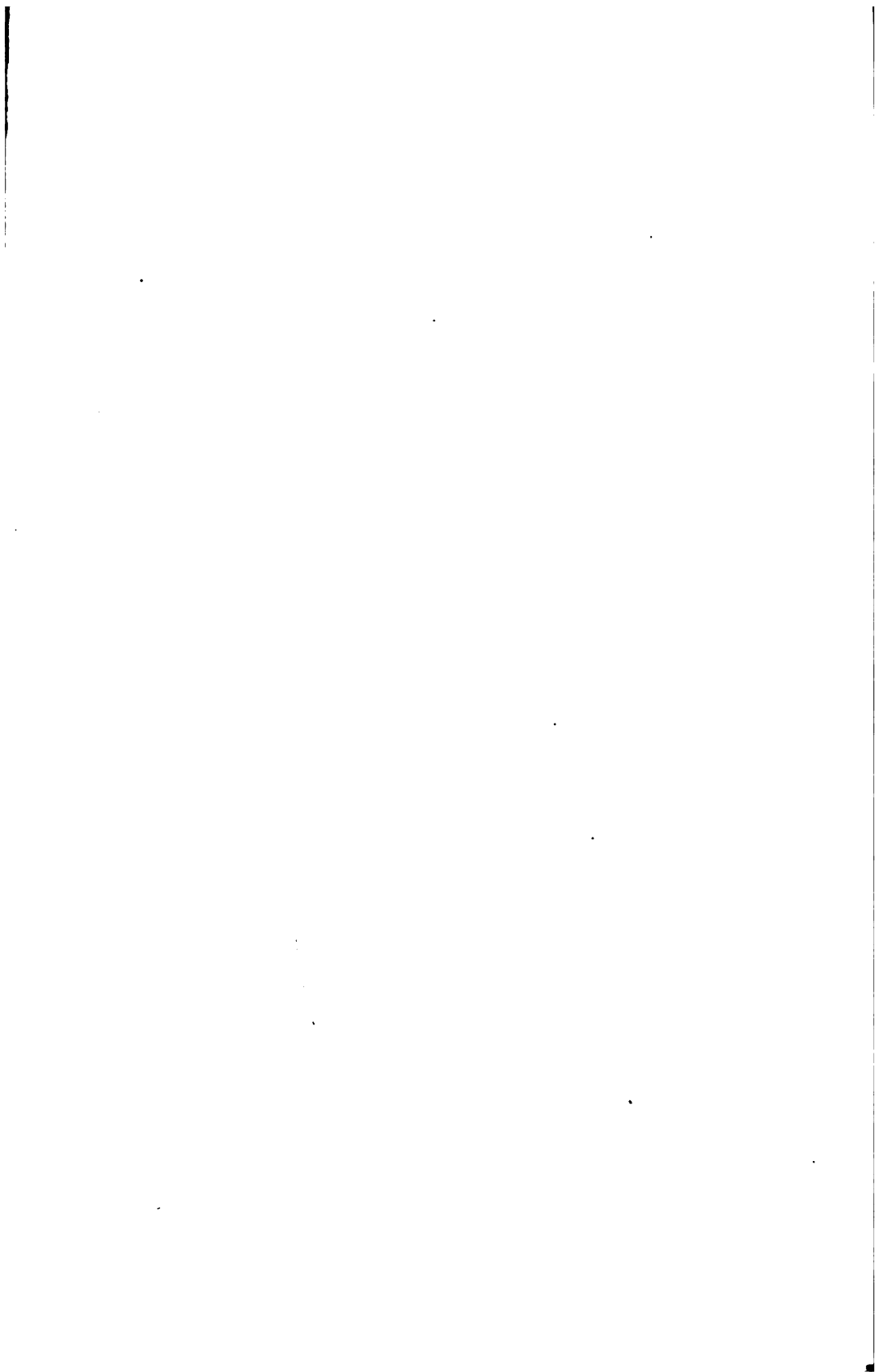
Obverse.

Portions of a necklace of jet found, in 1828, in a sepulchral cist at Pen y Bone, in Holyhead Island.

(Original size.)

ANCIENT RELICS FOUND IN HOLYHEAD ISLAND.





CYTTIAU'R GWYDDELOD.

SECOND MEMOIR.

DISCOVERIES MADE, IN 1868, DURING EXCAVATIONS AT TY MAWR,
PEN Y BONC, AND PLAS MILO, IN HOLYHEAD ISLAND;

WITH NOTICES OF SOME ANCIENT VESTIGES IN ANGLESEY.

BY THE HON. WILLIAM OWEN STANLEY, M.P., F.S.A.

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ANCIENT CIRCULAR HABITATIONS, CALLED CYTTIAU'R
GWYDDELOD, AT TY MAWR IN HOLYHEAD ISLAND;
WITH NOTICES OF OTHER EARLY REMAINS THERE.

By the Hon. WILLIAM OWEN STANLEY, M.P., F.S.A.

THE former account of excavations made by Mr. Albert Way and myself in 1862, published in the *Archæological Journal*, and again in the *Archæologia Cambrensis*,¹ having created considerable interest, in 1868, with the assistance of Colonel Augustus Lane Fox, I directed several of the circular foundations at Ty Mawr to be cleared out.

The first that we excavated was a hut-circle at the east end of the ancient village, situated under a cliff of rock about 20 ft. high, sheltering it from the north. (See ground-plan, No. I.)

The external face of wall was built as usual of large unhewn stones set on end, and sunk about 2 ft. in the ground; the interior of the walls, about 3 ft. thick, was made of loose stones and earth, or sods, occasionally lined with small flat stones set in rude courses, with large upright stones at intervals to prevent the walls crushing inwards; and here and there a long flat stone placed at right angles with the wall, projecting into the hut. Mr. Ormerod informs me that this same form of construction is found in the circular huts on Dartmoor; it occurs also in the ancient buildings on the Cheviots, at Greaves Ash near Linhope, Northumberland.²

¹ *Arch. Journ.* vol. xxiv. p. 229; *Arch. Cambr.*, third series, vol. xiv. p. 385.

² See a memoir by Mr. George Tate, F.G.S., *Transactions of the Berwickshire Naturalists' Club*, vol. iv. p. 293; also an abstract, with a ground plan, &c., and

some observations by Professor Babington, *Arch. Cambr.*, third series, vol. viii. p. 201. The investigation of that very curious Celtic town was carried out in 1861 by the Club, through the liberality of the late Duke of Northumberland.

The entrance was facing the south-east, with two large upright stones for door-posts. Attached to the hut, on the south, was a somewhat irregular semicircular chamber, adjoining the entrance. The diameter of the circle was about 25 ft.; and that of the semicircular appendage, 6 ft. On the north side of the large hut was a fire-place level with the floor; the sides were made of flat stones placed upright; above was a well-defined chimney formed in the thickness of the wall, sloping back, and with a large flat slab of stone in the slope. In front of this fireplace, a little to the left and



Fig. 1. Interior view of a circular hut at Ty Mawr, Holyhead Island. Compare the ground-plan, No. 1.

facing the entrance, was a stone mortar or basin, the cavity of which measured 11 in. in diameter and 6 in. deep, sunk to a level with the floor of the hut; this basin was hollowed out of a rough piece of hard trap or basalt, and well polished inside; it was tightly wedged into its bed, as appeared on removing it, with pieces of stone, evidently to resist pressure and to keep it firmly fixed when it was in use for the purpose of pounding, or the like. On either side of this basin, within a few inches, there was a large stone of the same material; one of these stones with a rounded surface, which, from the notched appearance, had apparently been used for breaking stones upon it; the other, about 2 ft. long and 15 in. wide, also sunk to the level of the floor, was slightly worn away or hollowed from having been used for grinding some hard material upon it.

In the centre of the hut there was another fire-place, made of flat stones set edgewise in the ground; it was of wedge shape, about 2 ft. long and 18 in. wide in front, tapering to a point at the back; it had been lined with clay burnt to the

consistency of brick ; in the fire-place were particles of metallic slag and fine sand, like that used for moulding ; scattered about was a quantity of broken pieces of quartz, with slight indications of copper ore in most of them. The upper half of the hut floor had been flagged with large unhewn slabs of the schist rock, and it was raised about 5 in., even with the top of the fire-place, which was sunk in the floor. We found great quantities of pebbles, which bore marks of having been used for pounding, grinding, and polishing, the ends being broken, or the sides rubbed by friction. There were also here several stones suited for similar purposes, probably not shaped artificially, but selected on account of their natural forms being well adapted to form rude implements. (See figs. 7, 8, 9.) A few stone hammers were also found, of more regular fashion, grooved or notched in the centre. (See figs. 10, 11.) It is probable that all these hammers were hafted, like a blacksmith's chisel of the present day, with a hazel band twisted round the groove, and strongly lashed with fresh sinew, or some other ligature. The same form of implement is found in Spain, Africa, North America, and all over Europe,³ in old copper and iron mines worked either previous to or by the Romans. Here also was brought to light a singular stone, that bears some resemblance to a weight. (See fig. 12.)

Some of the whetstones or rubbers had a greenish hue, as if bronze implements had been sharpened upon them. A



Fig. 2.—Stone cup.

small stone cup or crucible (see woodcuts, fig. 13) was found here ; it may have been used as a lamp, somewhat similar hollowed stones being used to this day for that purpose in

³ International Congress of Prehistoric Archaeology, No. V., Lisbon, 1868. Notícia de Alguns martellos de pedra

descobertos em trabalhos Antigos da mina de cobre de Ruy Gomes, no Alemtejo.

the Hebrides, as stated by Dr. Wilson in his *Prehistoric Annals of Scotland*. A stone cup of the same description, found at Carreglwyd, Anglesey, on the estates of Miss Conway Griffith, was recently exhibited by her at a meeting of the Institute, and has been figured in the *Arch. Journal*.⁴



Fig. 3.—Stone ring or brooch (orig. size).



Fig. 4.—Stone whorl or button (orig. size).

We found also a white stone spindle-whorl, as such objects are called, but more probably they were used as brooches or buttons, to fasten the clothing made of skins of animals. Tacitus says of the Germans,—“The clothing common to all is the *sagum*, fastened with a clasp, or, in want of that, a thorn; with no other covering they pass whole days on the hearth before the fire.” There is a notch or slight groove on each side, which might have served to catch the pin or *acus* when passed through the brooch. (See fig. 3.) Silver rings are now used in Sweden and Finland to fasten the dress, which is passed through, and a separate pin run through it. About fourteen of the buttons or “whorls,” of various sizes and materials, were found in the huts. See a curious ornamented specimen, fig. 4.

With slight variations, all the seven or eight huts that I excavated presented the same general appearance—the fire-place to the north, and, in the centre, the chimney, the stone mortar or basin, and the grinding and pounding stone on either side; in some of the huts there are two or three small fireplaces round the centre. (See ground-plans, Nos. 2, 3.) In all these huts there were the same appearances of slag, sand, and burnt clay, also coarse pieces of pottery, and stone hammers, with a great many rounded stones, some

⁴ See p. 288, *Arch. Journal*.

of them being doubtless natural pebbles from the sea-shore, but others had apparently been rounded by friction ; some of these may probably have been sling stones. They are either oval or round, and measure from half an inch to about three inches in length. (See fig. 5.) It is to be remarked

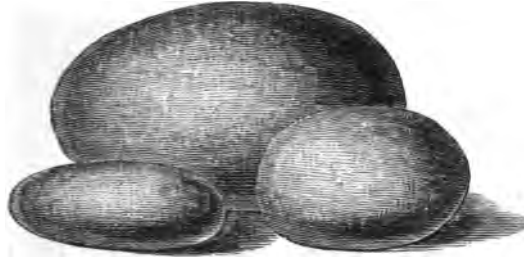


Fig. 5.—Sling-stone ; half original size.

that the people of Anglesey to this day are most skilful in throwing stones. The use of the sling was retained in mediæval warfare to a comparatively recent period ; even as late as the time of the Black Prince, the Spanish army in the year 1367 had the front rank of slingers, in the wars between Pedro and Henry of Navarre.⁵

In a large hut (ground-plan, No. 6) at the west end of the village the fire-place, stone mortar, &c., were to the south. The indications of smelting were here much greater ; we found quantities of charcoal, thick masses of iron slag or, as Sir Richard Griffith is inclined to think, portions of the metallic lode, mixed with the stone and floor of the hut, and hard to detach even with the pickaxe. About a dozen coins of about the size of a penny piece were here found, much corroded and seemingly much damaged by exposure to strong fire. These, which appeared unquestionably to be second brass Roman coins, were carefully examined by Mr. Roach Smith, who is of opinion that they may be ascribed to the period between Marcus Aurelius and Severus, or about the latter half of the second century ; he remarks, however, that they may have been long in circulation. In this hut we brought to light many broken pieces of rude pottery, nearly half an inch thick, ill burnt, and the clay as usual mixed with small stones and quartz ; here also many shells of limpets and periwinkles were found. Adjoin-

⁵ Life of Edward III.

ing this hut there was an oblong chamber, about 12 ft. long, containing a fireplace and a stone basin, or mortar, raised on a foundation of rough stones ; in this mortar lay the broken moiety of a spherical stone exactly fitting it, and underneath was a small quantity of broken quartz and finely-ground gravel. In this hut we found several small, flat, well-polished



Fig. 6.—Original size.

black stones, like counters ; they are slightly convex, and measure about half an inch in diameter, by five-eighths. (See woodcuts, fig. 6.) May they not have been used for some game ?

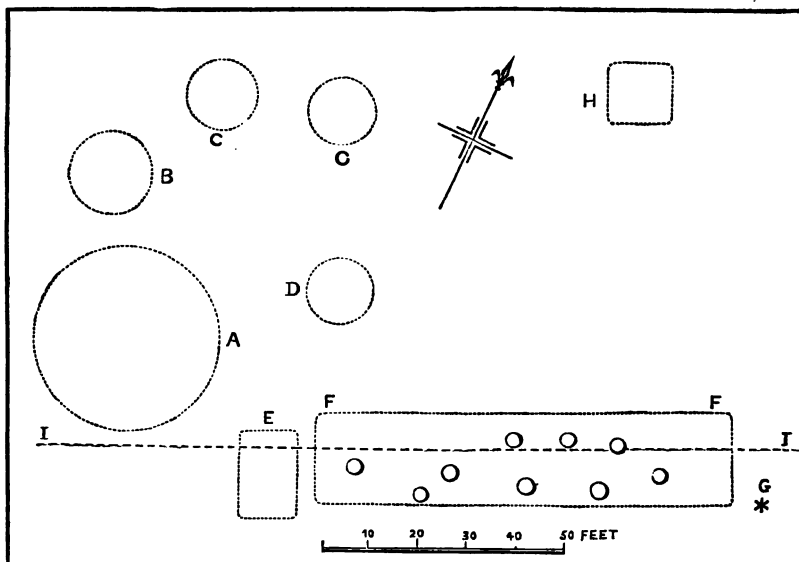
A few yards south of this hut we excavated an oblong building, 15 ft. long by 5 ft. in width, constructed of rough stones in regular courses ; it measured about 4 ft. in depth, the entrance to it was from the north, sloping from the level of the ground to the bottom ; in the floor were channels in the form of a cross ; they were about 5 in. wide, made of flat stones set edgeways in the ground, a flat stone being placed at the bottom, as if these channels had been made for running ore. (See ground-plan, No. 9.) Here also were numerous fragments of coarse pottery, which must have formed an utensil of large size ; here was found, mixed with slag, the curiously-shaped object which Professor Ramsay thought might have been the nozzle of a bellows. The Hottentots, to this day, use rude bellows of skins in smelting iron ore, as related by Mr. Burchell in his Travels in South Africa. In various parts of the ancient village there are oblong pits of the like description abounding with shells, but without any appearance of channels in the floor.

At Pen y Bonc, about half a mile to the south, in the lower ground, where the necklace of jet formerly described was found in a rock grave, the tenant, in removing an old fence, came upon a row of holes lined with stone, and with one slab at the bottom.⁶ The cavities were of circular form,

⁶ A meinhir was removed by John Jones, the tenant of Pen y Bonc. It stood about 60 ft. S.E. of the western extremity of the burial ground, and

measured nearly 5 ft. in height. John Jones remembers several similar stones about the burial ground.

about 2 ft. deep, and the same in diameter at the top, but narrower at the bottom ; in these lay charcoal made from brushwood. The cavities appeared to have contained urns



Plan of Cyttiau and other remains at Pen y Bonc.

A. Hut-circle, diam. 40 ft. B. A quantity of shells found here. C, D. Hut-circles, diam. 15 ft. E. Charcoal in abundance found here, and an oblong stone-mould (fig. 16). F, F. Supposed extent of a burial ground, with cists containing broken pottery. G. About 160 yards E.N.E. from this point the necklace of jet was found in 1828. H. A rectangular site found about 45 yards to E.N.E. of this spot, oblong stones in courses. I, I. Line of the present fence.

and ashes ; broken pieces of pottery being found, also one oblong, and several round, well-polished pebbles from the shore. These graves had apparently been opened and destroyed, and then filled with soil ; in ploughing close to them the plough-share turned up a small urn of black pottery ; it was broken to pieces, but when whole must have measured 2 in. in diameter at the bottom, $3\frac{1}{2}$ in. at the top, and 3 in. in height. It is considered by Mr. Franks to be of coarse Romano-British ware. In removing the fence the soil had all been placed in a heap, but I obtained portions of three kinds of pottery, a few small fragments of a polished black ware, which Mr. Franks pronounces to be of a kind rare in England, and of foreign make, also one or two pieces of ornamented red Samian, a ware also imported from foreign parts, and larger fragments of an imitative red Samian, probably of English make, with marks of the lathe.

Near the square foundations called "Ty Adda" and "Ty Efa" (Adam's and Eve's houses), described in the previous memoir,⁷ are the remains of many circular huts, but the foundations are nearly obliterated by cultivation. One large circular space, about 40 ft. in diameter, shown in the ground-plan (A), the tenant remembers to have been surrounded by a rude wall nearly 4 ft. high. This space contained charcoal, and near it a small oblong space (E), in which the stone trough or mould described hereafter was found. This was quite full of charcoal. The oblong space (F F) to the east was full of the sepulchral cavities before mentioned, with many upright stones, about 4 ft. in height, placed like those at Plâs. Might not the small oblong space with charcoal have been used for burning the bodies before interment of the ashes in urns? Stone hammers, smoothing or polishing stones, and pounders, all similar to those found at Ty Mawr, were found here.

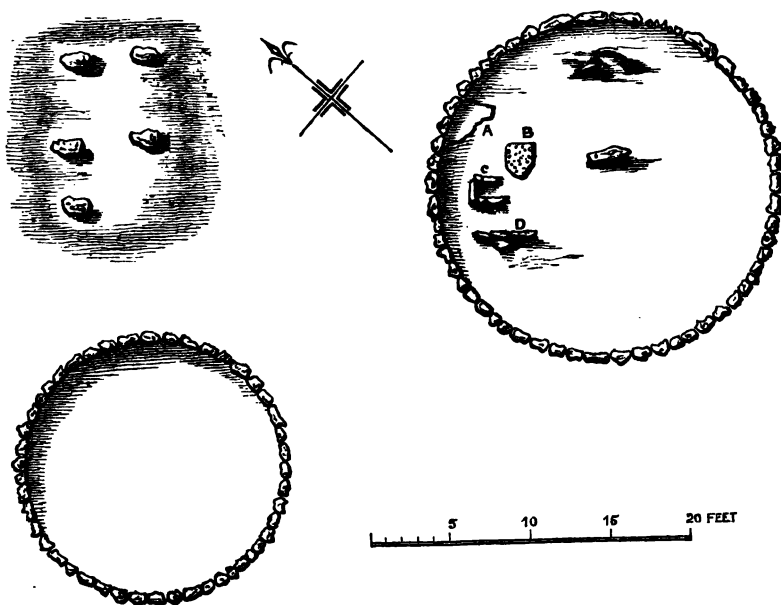
The peculiarly shaped oblong trough or mould (see woodcuts, fig. 16) is made of trap rock, and measures about 18 in. in length, 10 in. in breadth, and the cavity, which is rounded at the ends and side, also well polished, is $3\frac{1}{2}$ in. in depth. At one end externally there is a round hollow, about the size of half an orange, which was highly polished when first found; for what purpose this cavity may have been intended I cannot determine. A similar object with an oval cavity at the side, an inch in depth, was found in subsequent excavations; it is of the same material as that above described, and the dimensions are nearly identical. It is remarkable that three cakes of copper found recently at Llechylched are of somewhat the same form; it might be imagined that the metal had been run in this trough as a mould. The remarkable oval hammer of trap rock (fig. 17), and also one of the hammers grooved around the centre (fig. 11), were found here, with a quantity of stone pounders of all sizes.

In the former memoir on the Hut circles⁸ a plan was given of the huts at Plâs Milo, as the name appears in the Ordnance map of which a copy was appended, but, as it ought rather to be called, Plâs Penrhos feilw, or the extreme point of the *Penrhos*, a name given to the whole district, from my resi-

⁷ Arch. Journ., vol. xxiv. p. 258; 424.
Arch. Cambr., third series, vol. xiv. p.

⁸ Arch. Journ., vol. xxiv. p. 238.

dence on the east of Holyhead Island, to the extreme western point at Penrhos feilio. From the excavation of one of the most perfect of the circular foundations, it appears that precisely the same arrangement presents itself as at Ty Mawr,—the small fire-place at the side, the pounding stone set in the floor of the hut, the flagged portion at the side, with the appearance of having been made for the purpose of dressing ore, and generally found in the Ty Mawr huts, the place also where a stone basin might have formerly been placed, as in other instances, but possibly removed, the earth being evidently not firm at that spot, and somewhat hollow. These stone basins had been frequently found here. The pounding stones of large size, the remains of “saddle-querns,” with



Plan of remains explored at Plâs, near Holyhead, on the estates of the Hon. W. O. Stanley, M.P.
A. Stone bench. B. Grinding-stone. C. Fire-place. D. Pavement of rudely-worked flagstones.

the rubbing stones of grit, whorls also, or buttons, hammers, and smoothing or polishing stones occurred in abundance. All these seemed to denote that the same process, whatever it was, had been carried on at Plâs and Ty Mawr, as well as at Pen y Bonc. The copper vein runs near. The five erect stones, that now are about three feet above the real surface of the ground, are singular; they stand like gravestones in a churchyard, and appear to have been worked like small

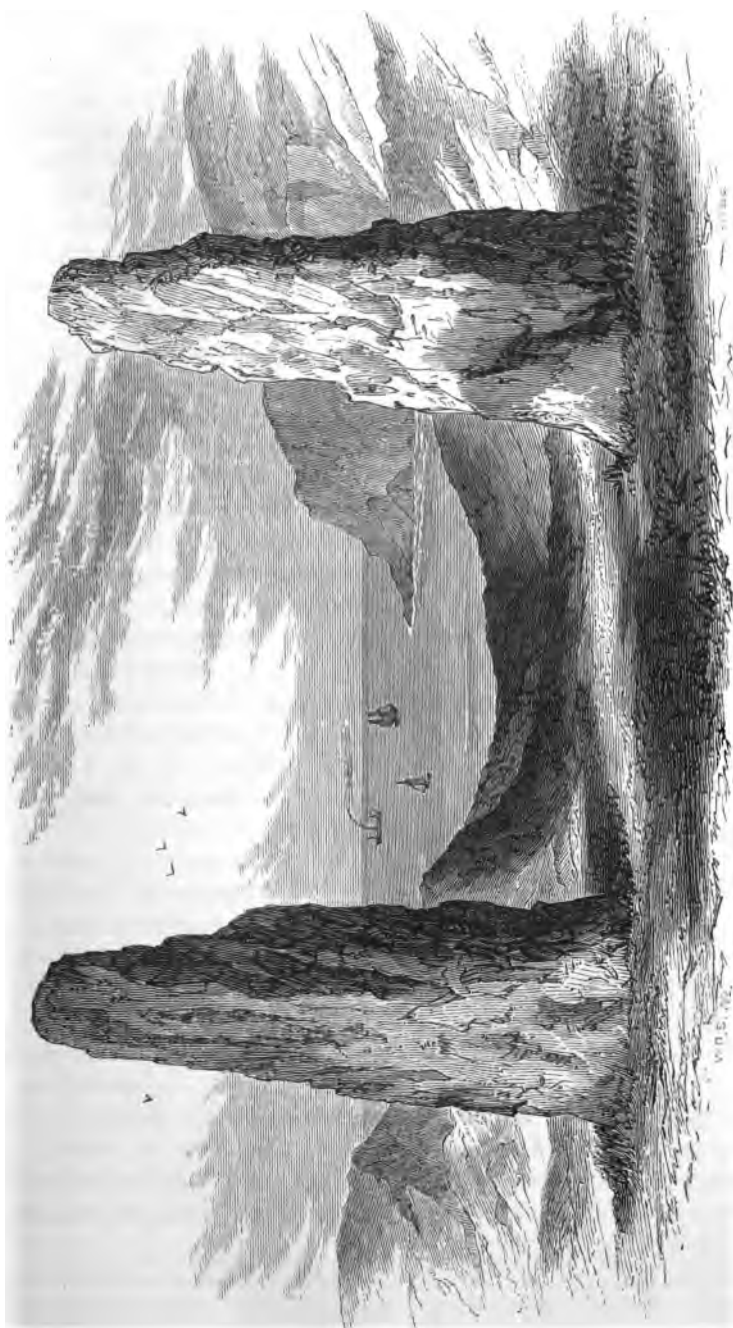
round pillars. Similar upright standing stones were lately seen at Pen y Bonc, in the oblong space where the urns were discovered, as shown in the ground-plan. No pottery was found here. The whole district of Plâs is interesting, and must have been a place of importance in Celtic times. There are moreover still to be seen two large meinhirs of schist rock, measuring 11 ft. in height above the ground, and 10 ft. apart, which, as old tradition affirms, were surrounded by a circle of large stones, standing 4 or 5 ft. above the surface; many of these were removed by the tenants to build the outhouses, fences, and to form gate-posts. Almost all these stones are of trap rock, unhewn, each stone weighing four or five tons. There is one still standing in the field to the east of the two meinhirs above mentioned.

Before I close my remarks upon the very interesting discoveries made by the excavations of the circular huts at Ty Mawr, Plâs, and Pen y Bonc, I would again call attention to the peculiar and uniform arrangements that have been found;—the fire-places so disposed and formed as to suggest the supposition that they may have been for the purposes of heating and working metal rather than for cooking, the slag and the clay-lined fire-places, as I have supposed them to have been, the stone mortars, the pounding and grinding stones also strongly embedded in the floor of the huts, the broken quartz from the copper lode, and the close proximity of both copper and iron ore.

In the Geological Survey of Great Britain by Professor Ramsay, in sheet 78, presenting sections of strata of Anglesey and Holyhead, I find the statement that “the fault is also a lode containing brown iron ore in quartz.” A vein of copper ore similar to that of the Parys Mountain runs north and south, below the huts, to the west, cropping out at the sea.

The following is the report sent to me by the kindness of the Professor from the School of Mines in Jermyn Street, after examination of various specimens that I sent to him from the huts recently excavated:—

“1. Oxide of iron cementing fragments of the rocks of the country; it may possibly be a very ferruginous slag, the iron of which has subsequently oxidised, but it may be possibly in the state in which it was extracted from the lode; it is slightly magnetic, and this gives reason to believe that it may have been a piece of metallic iron that was



Meini birion (long stones) of schist rock, at Pils, Holyhead Island. (Height 11 feet : they stand 10 feet apart.)
From a drawing by the Hon. William Owen Stanley, M.P., on whose property these ancient monuments are preserved.

smelted, and by subsequent oxidation the stones became cemented on its surface.

"Close to the huts a fault runs across the country to the north east, which may be a lode; it should be examined where it comes out on the shore."⁹

"2. Broken quartz, as if from a lode.

"3. Oxide of iron, probably a piece of manufactured iron since completely oxidised; it is very magnetic, and this helps us to confirm that opinion.

"4. Stalactite, oxide of iron, or 'limonite.'

"5. Fragments of oxide of iron.

"6. Ferruginous clay or ochre.

"7. Carbonate of copper.

"8. Floor of a hut, fragments of artificially broken stones, probably stamped in clay.

"9. A small parcel containing a piece of colored glass, cut on one side, also a long rectangular specimen which, under the microscope, seems to be basalt chipped artificially on one side, and rubbed down on the two long narrow sides; also a square piece of the same basalt, chipped artificially on the concave side.

"Two pieces of clay also deserve notice, that are vitrified by heat inside and outside. One of these appears as if it might be part of the nozzle of a bellows, used perhaps for smelting purposes." (See p. 6, *supra*.)

The Britons, in rude primitive times, before the conquest by the Romans, used, as it is believed, a very simple process in smelting minerals. They placed the ore in a hollow in the ground, mingled and heaped up with wood or charcoal, which being fired was found sufficient to fuse the lead or other metal out of the soft and kindly ores of Britain. A small channel, as it is supposed, communicated with a second cavity, into which the fused metal ran from the furnace thus simply contrived.¹

I cannot refrain here from inviting attention to what appears to me much to the purpose of the subject under consideration. Mr. Aldis Wright, in his very interesting notices of Ancient Mining, in Dr. Smith's Dictionary of the

⁹ This has subsequently been done, and the lode or vein is there found, with appearances seeming to indicate that it had been worked in very ancient times.

¹ See Pennant's Notices of Ancient

Mining in Britain; Tour in Wales, vol. i. p. 50-66. Pennant states that the Romans knew only the weak power of the foot blast; *ibid.* p. 64.

Bible,² cites an account of an Egyptian mining colony in the Sinaitic peninsula, in the Wady Magharah, at a very early period. In this district is to be seen a ruined fortress, supposed to be for the defence of the miners; hammers of green porphyry also have been found, and reservoirs so disposed that when one was full the surplus flowed into the others, so that they must have held an ample supply for years. The ancient furnaces are also to be noticed. There were at Surâbît-el-Khâdim, remains of dwellings, 140 in number, about 10 ft. square, and, at a short distance, ruins of a much greater number. Sir Gardner Wilkinson also, in his valuable work on the Ancient Egyptians,³ gives an account of the gold mines found by MM. Linant and Bonomi, and quotes the following particulars communicated by the latter:—

“Ruins of miners’ huts still remain, as at Surâbît-el-Khâdim. In those nearest the mines lived the workmen who were employed to break the quartz into small fragments, the size of a bean, from whose hands the pounded stone passed to the persons who ground it in hand-mills, similar to those now used for corn in the valley of the Nile, made of granitic stone, one of which is to be found in almost every house at these mines, either entire or broken. The quartz thus reduced to powder was washed on inclined tables, furnished with two cisterns, all built of fragments of stone collected there; and near these inclined planes are generally found little white mounds, the residue of the operation.”

According to the account of mining operations by Diodorus Siculus, the ore was pounded in stone mortars with iron pestles till it was reduced to the size of a lentil; the women and old men then ground it to a fine powder in the mills. The superintendent then spread the powder on a broad, slightly inclined table, and rubbed it gently with the hand, pouring water upon it from time to time to carry away the earthy particles.⁴ Have we not found in every hut recently explored at Ty Mawr similar contrivances suited for pounding, grinding, and washing the ore? For what else could these appliances have been used, surely not for preparing food?

² Vol. ii. p. 368. The descriptions of the extensive ancient mining establishments was taken from a most interesting letter in the *Athenæum*, June 4, 1859, from Surâbît-el-Khâdim, in the Desert

of Sinai.

³ *Anc. Egypt.*, vol. iii. p. 229.

⁴ Dr. Smith's *Dict. of the Bible*, *ut supra*.

The hut excavated in 1862 and described in my former memoir presented a different arrangement, and was adapted for cooking; the saddle-querns then found were of coarse grit, such a material as is now used for grinding and rubbing corn, whilst, in the huts lately examined, the grinding and pounding-stones are all of hard trap. This grit-stone, I may here observe, must have been brought from the centre of Anglesey; there is none found near Holyhead. The grinding-stones are exactly similar to those found in Egypt and Africa, that may be seen in the Christy Collection. All these circumstances taken together convince me that we have here the evidence of a mining or metal-working population.

The bronze weapons of Irish type found in 1832, and the rude stone implements that have been discovered, might denote a native population.

The Roman coins of comparatively early date, the Roman pottery and urn burial, and remains of Roman querns or hand-mills at Pen y Bonc, quite different from the ruder Celtic form found in the huts above at Ty Mawr, give distinct evidence of Roman occupation; but all these facts are easily reconciled, and would all point to about the end of the second century as the time when the mining works were carried on. The Romans conquered and inhabited Anglesey about A.D. 78, when Agricola invaded the island; the first expedition of Suetonius, some years before, not having led to any permanent occupation, he was obliged to withdraw his forces, and to join the Roman army near St. Albans, to resist the Queen Boadicea. The Romans in 423, A.D., under Valentinian, finally left Britain.

The Irish occasionally occupied Holyhead and portions of Anglesey previous to, and after the time of, the Romans.

We may here consider with propriety what could have been the inducement for the Romans to invade and garrison Anglesey with, as Roman writers would lead us to suppose, a scanty and barbarous people, poor, and possessing nothing to offer to the cupidity of the conqueror. Was it for their own security, and that of their new settlements at Segontium, Conovium, and other points in North Wales? Was it to break down the power of the Druids or Priests of the British nation, who had fled before them, or was it for gain and to secure the mineral wealth of Mona?

In Whitaker's Manchester and in Carte's History, we find

that it is most erroneous to suppose that the Britons had no intercourse with other nations previous to the Roman invasion under Julius Cæsar, or that the people were wholly ignorant and barbarous. They had long traded with and were well known to the Belgic and Gallic nations, whose youths were occasionally sent hither to complete their education. Carte, but more especially Whitaker, has made it appear from sufficient authorities that the great commercial nations of antiquity, the Phœnicians and Carthaginians, traded to this island for a long period before the Romans made their appearance in the western parts of Europe. The first commerce of the Britons, according to Whitaker, was occasioned by the resort of the Phœnicians to their coasts.⁵ This was before the time of Herodotus, and about 500 years before the Christian era. The trade was opened with the Cassiterides or Scilly Islands at that period, antecedent to the establishment of Roman power here; the trade of the island, it is believed, was considerable; two roads were laid across it, reaching from Carnarvon to Sandwich, on one side, and from Dorsetshire to Suffolk, on the other, namely, the Ikening Street, that led to the one from the Icenî, and Watling Street, that led to the Irish Guetheli, denominated by the British Sarn Guetheling, or road of the Irish. The trade of tin was removed from Scilly, and settled in the Isle of Wight; the metal was transported by the Belgic traders over the neighbouring channel, unshipped on the other side, and sent by horses along the roads, or by boats along the rivers, to Marseilles and Narbonne. The exports were, as we learn from Diodorus Siculus, besides tin, gold, silver, iron, lead, hides, cattle, corn, and slaves; dogs, gems, mussel pearls, polished horn, objects of bone, horse collars, amber toys, and glass vessels; baskets, the silvery marl from Kent, mentioned by Pliny, and oysters.

I have quoted this from the *Cambrian Register*, now a scarce book, but it well deserves perusal, as are also the histories by Whitaker and Carte. The statement places before us the fact that Anglesey was then commercially known to Ireland as well as England; that the produce of the country was sought after by nations before the coming of the Romans, and that the mines of Anglesey may have

⁵ Pliny, lib. vii. c. 56.

been worked in very early times for export to foreign countries.

In various parts of Anglesey copper cakes have been found—three were brought to light in 1867 at Llechylched ; of these two are now in the possession of the Rev. W. Wynn Williams and the Rev. Hugh Prichard. These cakes weigh about 45 lb. each ; they bear no mark, and probably are not Roman. A detailed notice of the discovery will ere long be given by Mr. Prichard in the *Archæologia Cambrensis*.

I can trace three others ; one found at Caerhûn, and now at Mostyn, is described by Pennant, and noticed in the *Archæological Journal* by Mr. Albert Way in a memoir on vestiges of ancient metallurgy in Britain ;⁶ one is in the Caernarvon Museum ; and a small cake found at Llangwyllog is preserved at the residence of Sir R. Bulkeley, Bart., at Baron Hill, Anglesey. Old workings for copper are traced at Amlwch, Parys Mine, Orme's Head, and also on Snowdon,⁷ as we are informed by Mr. C. Reed, F.S.A. Pearls were obtained at Conway and conveyed to Rome, where they were much esteemed. All this local wealth, if known to the Romans, may have induced them to invade Mona.

If we consider the value of Anglesey to the Romans strategically, from its prominent position as an outpost, it was absolutely required to take the precaution to occupy and garrison all the strongholds, for the sake of security against the attacks of tribes hostile to Roman rule beyond the seas, or from the half-subjected inhabitants of Mona itself, and to protect the new settlements of Segontium and Conovium (Caernarvon and Caerhûn, near Conway), and other stations in North Wales. Still more was this indispensable to them if Ireland was to be invaded.

I will not enter into the discussion whether the Romans ever occupied Ireland ; this subject has been discussed at considerable length by Mr. Wright and Mr. Brash, in the *Archæologia Cambrensis*.⁸ As no one, however, has alleged that a yard of Roman road, masonry, or earthwork has been found in Ireland, we may conclude that no position there ever was occupied for any length of time, even if any descent was actually made upon its shores.

⁶ *Arch. Journ.*, vol. xvi.

⁸ *Arch. Cambr.*, third series, vol. xii. p.

⁷ *Proceedings, Society of Antiquaries*, 296 ; vol. xiii. p. 83.

second series, vol. i. p. 10.

Was the expedition of the Romans into the remote island of Mona only to chastise the Druids and destroy their power? Possibly that may have been one object, as the Druids incited the natives to resist the Roman power; but it was not the custom of the Romans to war against the religion of a conquered nation. It is probable, therefore, that the search after mineral wealth and tribute, and the view to their own security, may have induced the Romans to hold Anglesey with a strong force.

Finding that the natives had been, or were, working the mines in Anglesey, it is natural that the Romans should employ native labor to raise the mineral, which they may probably have taken as tribute.

Mr. Tate, in his account of certain early vestiges in Northumberland, mentions slag heaps found on the moors of Eglingham and Harehope, a district abounding with (carboniferous formation) ironstone, and coal and limestone; these heaps always occur near ancient British camps and circular dwellings.⁹ We find the same on the hill-sides in North Wales; the ore was probably smelted on open hearths.

In Sussex and Kent, I have been informed that the Romans extracted iron from peat. In the bog near the Ty Mawr huts the peat is strongly impregnated with iron; and until very lately the peat at Parys Mountain, Amlwch, was burnt, the ashes containing a small percentage of copper. I learn from Mr. T. F. Evans, the able manager of the mines, that copper being so low in value it is no longer worth smelting.

In giving this memoir to the public, I feel how necessary it is to suspend all hasty conclusions as to the real nature of the objects found, or the races who inhabited these huts. A complete and searching investigation by the ablest archæologists is requisite before we can attempt to arrive at any satisfactory conclusions. I here offer these remarks, as, in my former memoir, from the absence of all traces of metal or pottery in the excavations then made, I was inclined to give an earlier date to the occupation of the village at Ty Mawr than the time of the Roman conquest.

The recent investigations, however, have dispelled my former conclusions too hastily formed; nevertheless, I do not

⁹ Proceedings of the Berwickshire Naturalists' Club.

think that anything then advanced is adverse to what we might expect to find under the new aspect that now presents itself to us.

The first huts excavated in 1862 were entirely different in their arrangement and in the objects found in them to those examined in 1868. The former I still must consider as huts set apart for cooking. Stone-boiling or cooking appears to me more probable now than formerly; all recent research teaches us that it was a custom prevalent in all Celtic countries, even to a late period of our history. Mr. Campbell, of Islay, tells me that what Capt. Birt stated, in 1746, regarding the customs of the islanders in the Hebrides, although he was never there himself, is known to be the common tradition. The islanders were accustomed to cook their beef in the hide, and in wooden vessels hollowed out with their dirks and the aid of fire. Into these they threw heated stones for the purpose of cooking their food and boiling water.¹

Sir Richard Griffith also informs me that a Roman Catholic priest at Mallow, with whom he had occasion to converse, in reference to the great heaps of stones on the hill sides in Ireland bearing marks of fire, and as to which the local tradition was that they had been places where charcoal had been made,—told him that it was well known that the natives, in former times, had used the stones for heating water and cooking food in wooden vessels.

We may suppose that the Romans found a native mining population at Ty Mawr and Holyhead; what could be more natural than that the natives should be compelled by their conquerors to continue mining operations for their benefit, whilst the native Britons continued to live in the huts that they had previously occupied, and retained their ancient customs.

Since this memoir was written, I have had the great pleasure and advantage of visiting the huts again, in company with Sir Richard Griffith, Bart. As a geologist and

¹ In connection with the curious subject of stone-boiling I may cite the narrative of Gilbert Malcom Sproat in his account of *Savage Life in Vancouver's Island*. He states that the natives use dishes formed of wood, either hollowed from a block or having sides fastened with wooden pegs. They carry water in

these, and the practice is to heat the water by throwing hot stones into it until it boils. They soften the split tree to form a canoe, when partly hollowed by axes of elk horn or shell; in the same way filling it with water and heating with hot stones.

mineralogist no one is more competent to form an opinion. He was greatly interested in all that he saw at Ty Mawr and Pen y Bonc; it could not be doubted that some extensive works had there been carried on, connected in some manner with metallurgical operations; but, as we had before remarked, there was no scoria in any quantity, nor, as it appeared to him, the indispensable means and appliances for smelting hard ores; still they might perhaps have worked metal in these huts, or even smelted the soft carbonates of copper usually found on the surface of lodes, similar to the nodule found and examined by Prof. Ramsay. The quantity and large size of many of the pounding and smoothing stones found could not have been for the exclusive purpose of preparing food; those appliances must have been used in some sort of manufacture.

When visiting the coast of Antrim, I was struck with the intense white heat produced by burning the kelp, or seaweed, in open kilns made with perforations or open-work in the building, to allow the blast of air to act as a bellows. May not the ancients have found that the alkali served as a solvent, and thus have smelted the ore near the sea-shore where it was found, and where the lode is most easily worked?

I cannot conclude without noticing the conduct of some unknown visitors at the huts recently explored at Ty Mawr. I had purposely left everything exactly as I had excavated it, for the advantage of all interested, to see how the arrangement had been. They hired persons to pick up the mortars and stones, and carried away the best; so that I have been obliged to remove the remainder into a place of safety. Such conduct cannot be too highly blamed; it destroys the pleasure of so many intelligent persons desirous to examine the remains, and it is in itself a most dishonest act.

DESCRIPTION OF THE GROUND-PLANS OF CIRCULAR HUTS AND BUILDINGS EXCAVATED IN 1868.

No. 1. Ground-plan of the hut, first examined, at the east end of the village of Ty Mawr (the hut to the south of a triangle of huts, under M in the word Mynydd, in the Survey of the Cyttiau'r Gwyddelod, given with the former memoir in the *Archæological Journal*, vol. xxiv., p. 229).

No. 2. Hut at the extreme west end of the village, near the road to the South Stack (in a line with the last letter of the word Stack, in the Survey).

No. 3. Hut 15 yards north of the one excavated in 1862, and described in the former memoir.

No. 4. Hut in the group at the west end of the village, and near Nos. 2 and 3.

No. 5. Portion of circular foundations in the same group as the last.

No. 6. Hut situated above Nos. 4 and 5, in the fence to the north of the village. In this building there were appearances of a fierce fire having been made. Coins, numerous fragments of coarse pottery, with charcoal, and much slag, were here found.

There is a small building, or chamber, of oval or oblong form, and lined with stone, adjacent to the south end of each of the huts, Nos. 3, 4, and 5.

No. 7. An oblong building or pit, with a fire-place at one side, and a stone seat. Near the hut, No. 3.

No. 8. Oblong building, with an opening (like a doorway?) at one side. Near the hut, No. 4.

No. 9. Oblong building or pit, situated 15 yards S.E. of the hut, No. 6. This pit, the floor of which is curiously channeled, is carefully lined with stone laid in courses. In this building the supposed nozzle of a pair of bellows was found. The pit might possibly have been used in some process connected with smelting metal. (See *Smith's Dictionary of the Bible*, under Metal and Mines; and *Dr. Ure's Dictionary of the Arts*.)

The Samothracians used a simple process of smelting iron: Sir Gardner Wilkinson has described the method employed.

IMPLEMENTS AND OBJECTS OF STONE FOUND IN THE EXCAVATIONS.
(See Woodcuts).

Fig. 1. Interior view of the hut first excavated. Ground-plan No. 1. The supposed chimney in the north wall of the hut, the position of the mortar, rubbing-stone, &c., and the fire-place near the middle of the area are here shown.

Fig. 2. Small stone cup, that may have been used as a lamp; it measures about 2 inches in each direction. Several objects of this description were found. Somewhat similar lamps, formed of soap-stone, are used by the Esquimaux. Stone cups, intended possibly for the like uses, have been repeatedly found in Scotland: these for the most part have small handles or ears; the lamps used by the Esquimaux are frequently formed without handles.

Figs. 3, 4. Stone whorls; possibly fastenings of the dress. About 14 objects of this description were found. (The woodcuts are of the full size.)

Fig. 5. Oval pebbles, of various sizes ; supposed to have been sling-stones.

Fig. 6. Small oval black pebbles, rubbed down to a flat surface, and well polished ; probably used for some game. (The woodcuts are of the full size.)

Figs. 7, 8, 9. Objects of stone apparently selected on account of their natural forms, being suitable for use as hand-hammers, or for some process of trituration. Implements of like fashion have occurred in the north of England, and elsewhere ; somewhat similar objects seem to have been used also by the Carib Indians.

Since the examinations were carried out in 1868, a remarkable specimen has been found at Ty Mawr, weighing 10 lbs. The form is well suited for being grasped by the hand, for use in pounding, or the like.

Figs. 10, 11. Stone hammers, of a form that occurs in all countries, and found in old mine workings ; they are more or less grooved around the middle, probably for the purpose of attaching them to wooden handles by means of animal sinew, bands of skin, or even by withy bands twisted round, and strongly lashed, a mode of hafting implements of stone commonly used by savage nations.

Fig. 12. A rounded stone, somewhat resembling a weight : the bottom is flat, as if the stone might have served for some process of trituration ; on the top there are two singular projections, separated by an intervening groove. The general form of this stone may have been natural, but the object has probably been adapted artificially for some use, which it is not easy to define. The stone measures at the bottom $3\frac{1}{2}$ inches, and about 2 inches in height.

Fig. 13. A small oval cup of stone, suited for use as a lamp. Length, $4\frac{1}{2}$ inches. Compare the notice of Fig. 2, *supra*.

Fig. 14. A rounded stone, flat at top and bottom, rubbed down with considerable care, so as to reduce it to an irregularly spherical form, with numerous facets all around its circumference. Of these flat rounded stones several examples occurred ; their use has not been satisfactorily ascertained. Diameter, 3 inches.

Fig. 15. Another implement of the same class and dimensions ; it may have been a polishing stone, and has been worked with considerable care, so as to give regularity in giving the rounded form of its contour. There appear to be no indications of use as a hammer. Several other like objects of ruder fashion were found, formed of quartz.

Fig. 16. An oblong trough or mould formed of trap. Found in the excavations at Pen y Bonc. Length 18 in., breadth 10 in., height $7\frac{1}{2}$ in. It had been broken into several pieces, and the ends were much fractured. The cavity is well polished, and the surface within, when carefully examined by the microscope, has a certain appearance indicating exposure to great heat, that had produced a slight degree of vitrification. At one of the ends there is a round cavity, about the size of half an orange, the use of which it is very difficult to conjecture, more especially in the present imperfect and broken condition of that extremity of the block of stone. It has been supposed that the oblong trough may have been used as a mould for running melted metal. A fragment of another similar object was found, of the like material, and of which it appeared that the dimensions, in its perfect state, were nearly the same. At the

extremity of the stone there was likewise a cavity, as in the object first described, but of oval form.

Fig. 17. A well-formed oval hammer of trap rock. (Found at Pen y Bonc.) It measures rather more than $4\frac{1}{2}$ in. in length, 3 in. in breadth, and is perforated for hafting; the perforation is about three-quarters of an inch in diameter. This implement, of comparatively rare type, has been presented to the British Museum. The moiety of a second similar implement, of decomposed granite, was found in the Ty Mawr huts; when perfect it had measured about 6 in. in length by 5 in. in breadth. Another specimen (of decomposed granite?), precisely similar in form and appearance, the surface much weathered, is in the possession of Mr. Granville Leveson Gower; it was found near his residence, Titsey Park, Surrey, and has been figured in the Surrey Archæological Collections, vol. iv., p. 237.

Fig. 18. A sharpening-stone, the surface being marked by transverse grooved lines, produced apparently in the process of sharpening some edged implement. This piece of stone, much fractured at each of its ends, measures about 6 in. by 5 in. These scorings may be compared with those occurring, to a much greater extent, on certain rocks in Caernarvonshire and other places in North Wales, and supposed to have been produced in sharpening weapons, arrow-heads, and the like. A remarkable example, now destroyed, existed near Aber in Caernarvonshire, where the Welsh princes anciently had a residence. This stone, wholly covered with scorings caused, according to popular tradition, in sharpening arrows and the like, was known as "Carreg y saethau,"—the stone of arrows. It has been figured, Arch. Journ., vol. xxi., p. 170.

Fig. 19. Another sharpening-stone, scored with three deep grooves; it measures about $3\frac{1}{2}$ in. in length and breadth, and 1 in. greatest thickness. In one of the grooves lay a small irregularly-fashioned object of stone, possibly an implement for some use not ascertained. It is represented at the side of the woodcut. These relics, and also that last described, were found in the hut No. 3.

Fig. 20. A four-sided implement of stone, fashioned with considerable care; the sides are flat and smooth; one extremity is worked to a sharp edge. (Found at Pen y Bonc.) It has been suggested that it might have served as a burnisher, or polishing-stone. Dimensions, about 4 in. by $2\frac{1}{2}$ in.; thickness, $\frac{3}{4}$ in. In the Blackmore Museum at Salisbury there is an implement of stone, found near Frome, Somerset, similar in general form and dimensions.

A considerable number of pebbles, with indications of having probably served for various mechanical or other uses were found, some of them bearing traces of percussion, whilst others may have served as mullers or rubbers, or for polishers and the like. Amongst them occurred the little

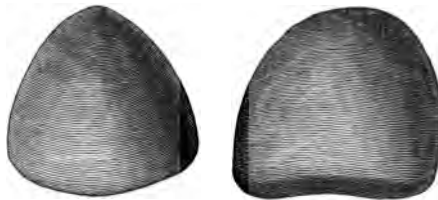


Fig. 21. Small stone muller. Side view and profile.

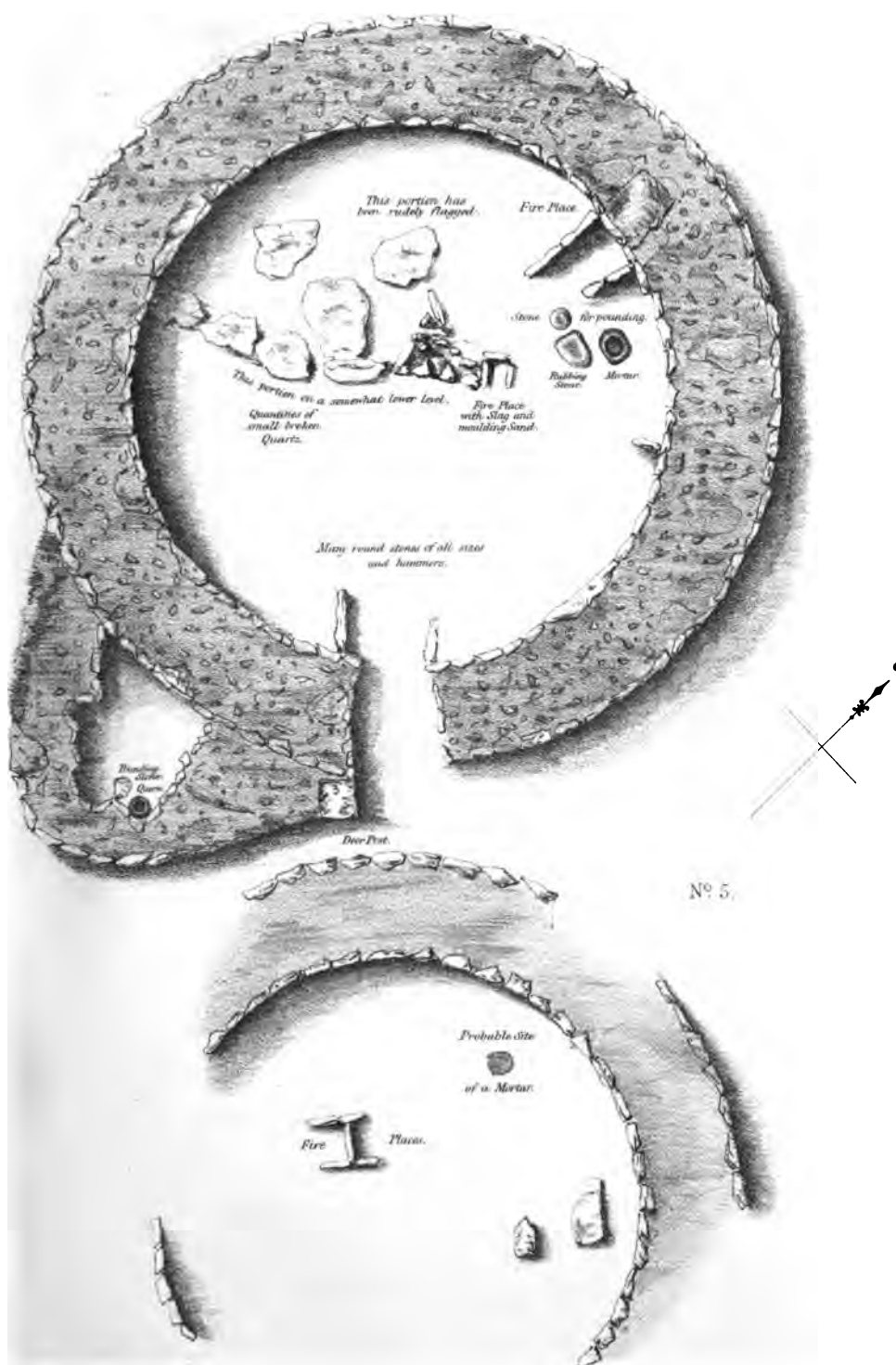
object here figured, Fig. 21, measuring about $1\frac{1}{2}$ in., greatest breadth. The appearance of friction upon the surface of this and other stones, suitable by their form for certain purposes, seem to entitle them to be regarded as implements of simple character.

In all the huts there were found oval and round sea-shore pebbles, measuring from a small size to 4 in. in diameter, in great quantities, and presenting the appearance of having been exposed to great heat, probably in the process of "stone-boiling." Notices of the occurrence of the like indications of that usage were given in a former memoir, *Arch. Journ.*, vol. xxiv., p. 248. Some smooth pebbles may have been missiles and sling-stones; some, mostly of hard quartz, may have been, as indicated by traces of percussion, hand-hammers, with which certain implements of stone were fashioned and chipped. They do not appear, as shown by their rough and notched surfaces, to have served in pounding or grinding grain and the like.

Two "saddle querns" of grit-stone were found, of fashion similar to that found at Ty Mawr in 1862, and figured *Arch. Journ.*, vol. xxiv., p. 244; also numerous broken rubbers, the oblong upper stones or "runners," that were used with the grinding appliances of that peculiar description. There were also portions of rounded objects of trap-rock, that in their perfect state may have measured about 10 in. in diameter, and 3 in. in thickness, well smoothed and polished, and fitting the stone mortars, which occurred in so many instances in the remarkable ancient buildings that have been described.

The Institute is indebted to the gratifying liberality of the Author of the foregoing valuable memoir, by whom the greater part of the accompanying illustrations have been contributed.

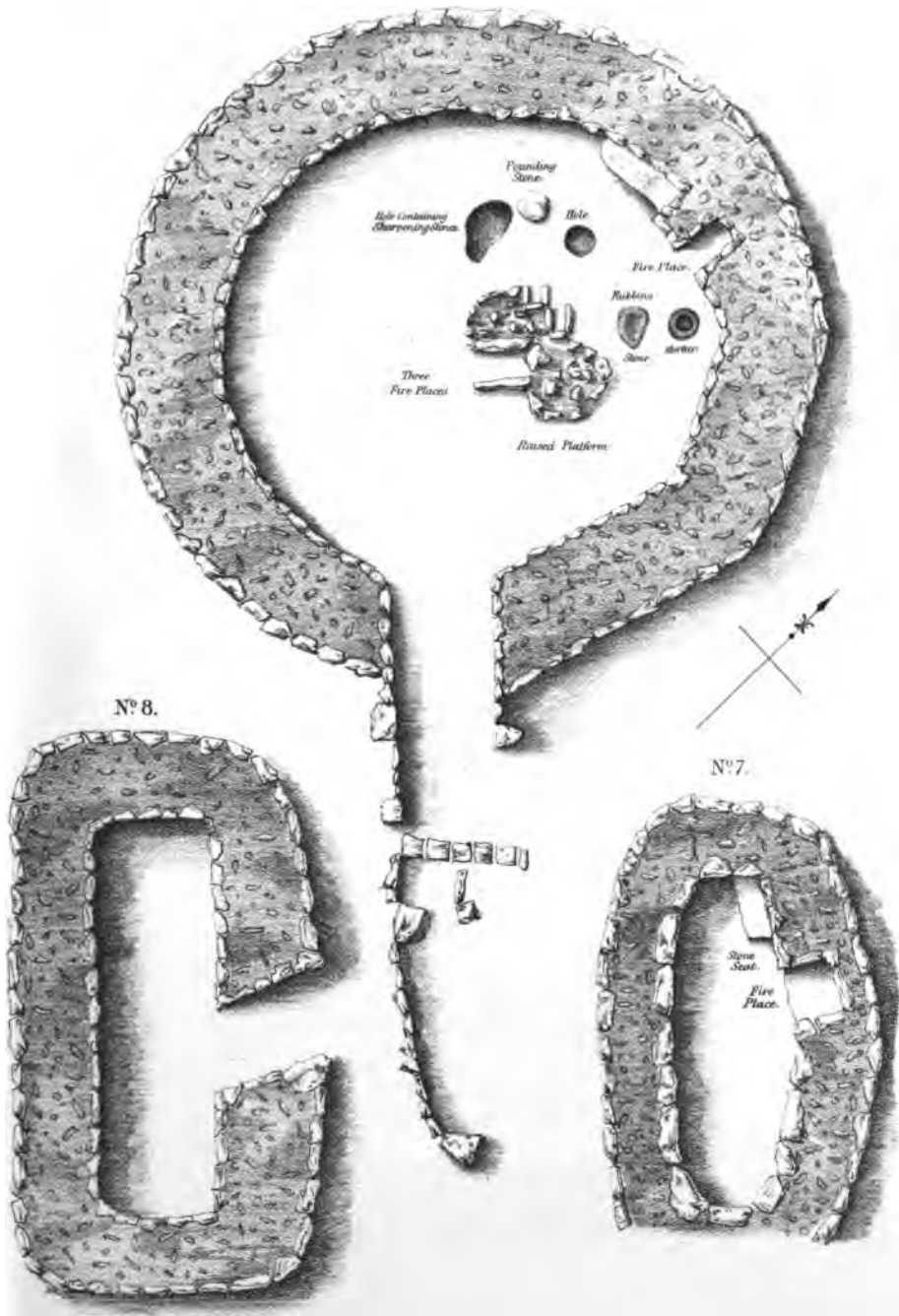
Nº1. EAST END OF VILLAGE.



FOUNDATIONS OF CIRCULAR BUILDINGS AT TY MAWR, HOLYHEAD ISLAND.

SCALE.
 $\frac{3}{8}$ inch = 1 foot.

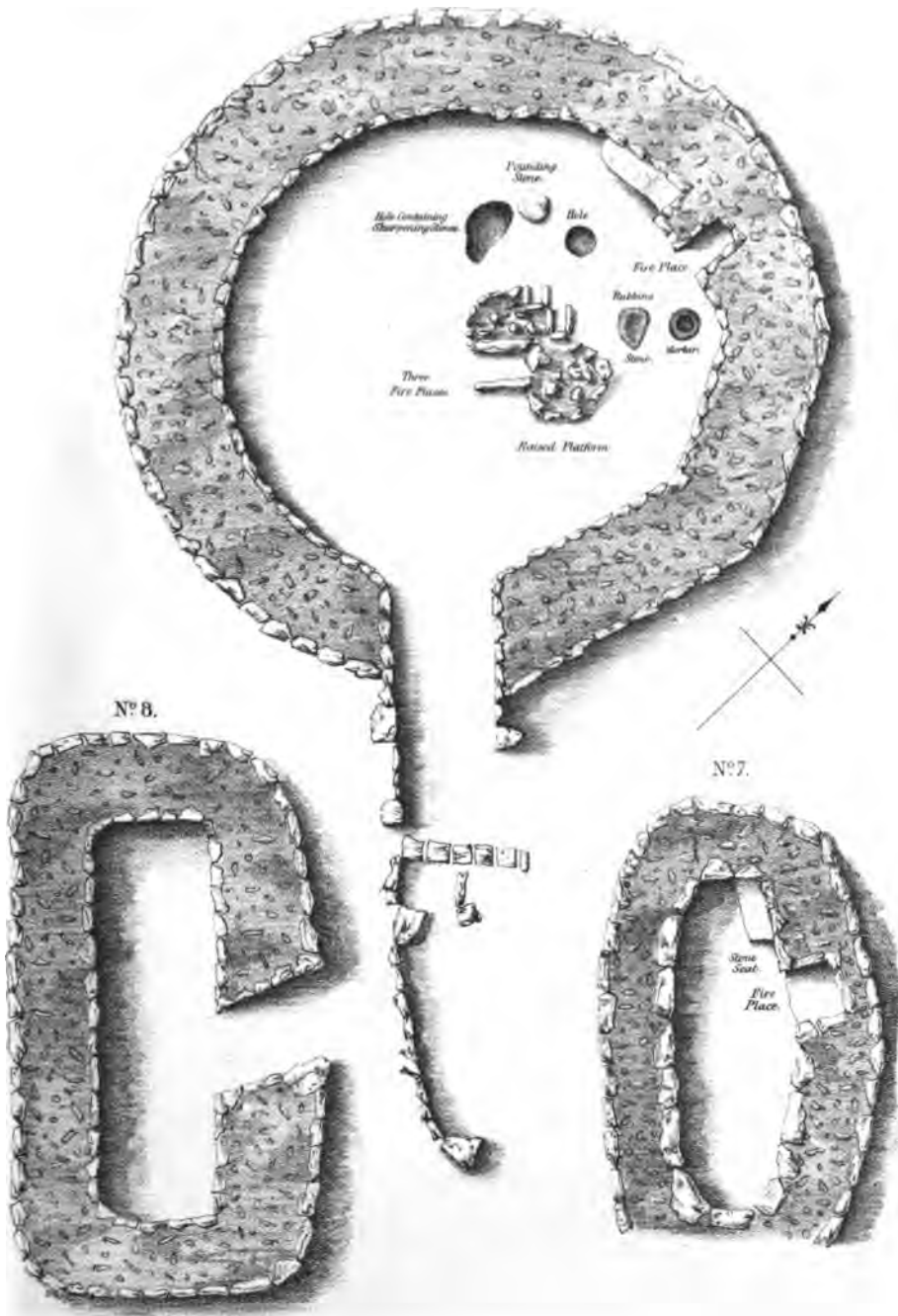
Nº 3.



FOUNDATIONS OF CIRCULAR BUILDINGS AT TY MAWR, HOLYHEAD ISLAND.

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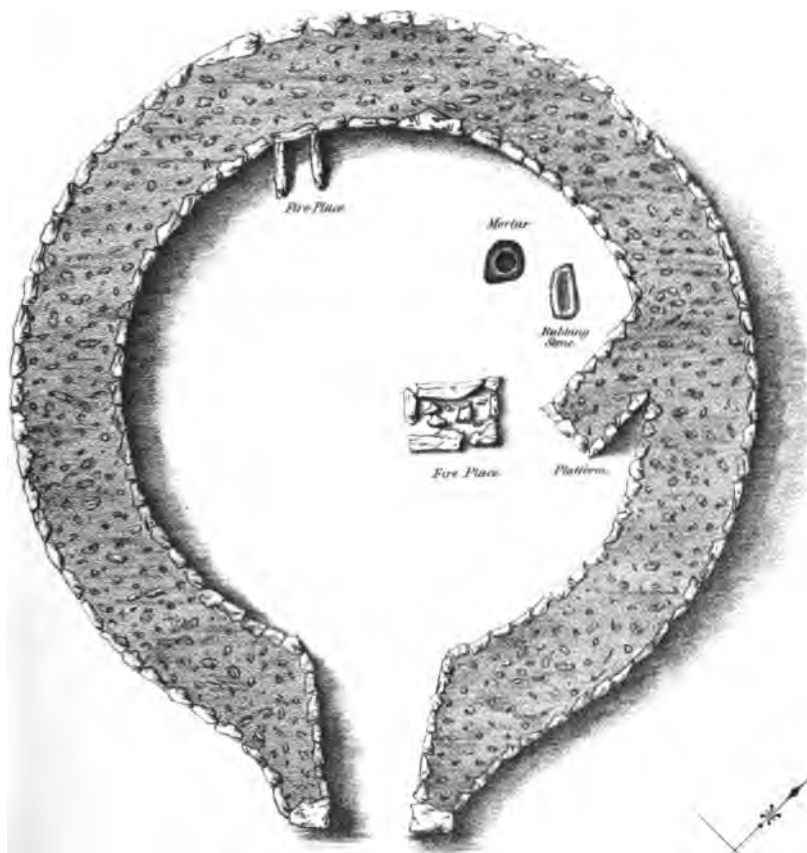
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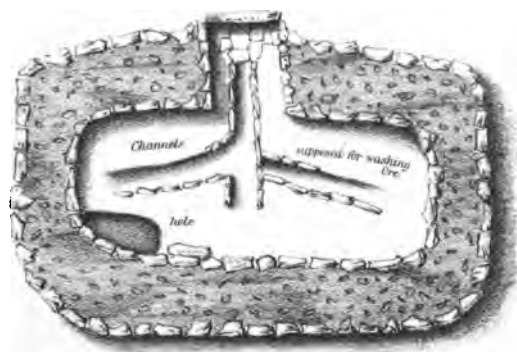
FOUNDATIONS OF CIRCULAR BUILDINGS AT TY MAWR, HOLYHEAD ISLAND.

SCALE.
 $\frac{1}{8}$ inch = 1 foot.

Nº 4.



Nº 9.



Slag and coarse Pottery in abundance.

FOUNDATIONS OF CIRCULAR BUILDINGS AT TY MAWR, HOLYHEAD ISLAND.

SCALE.
 $\frac{1}{8}$ inch = 1 foot

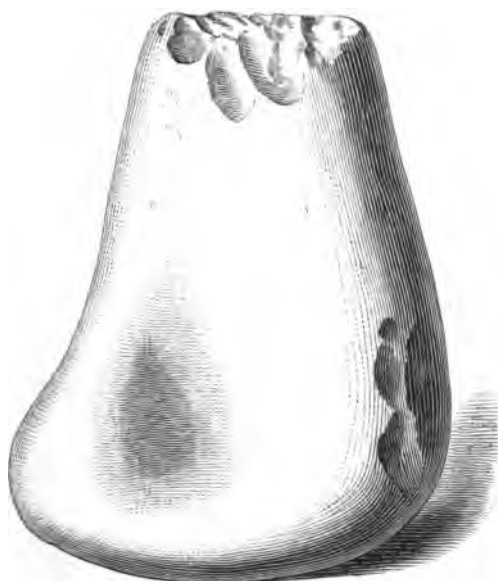


Fig. 7.

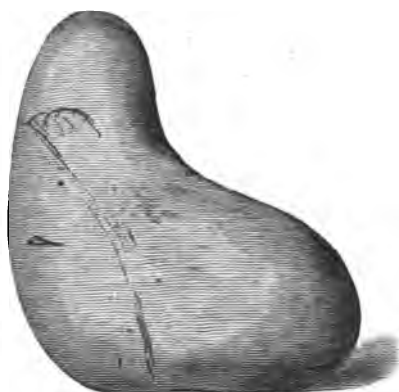


Fig. 8.



Fig. 9.

I. Implements of stone, found in hut-circles in Holyhead Island, on the estates of the
Hon. William Owen Stanley, F.S.A.
(Scale, two-thirds original size.)



Fig. 10.

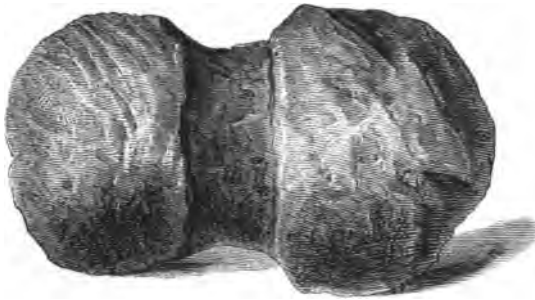


Fig. 11.

II. Hammers or Implements of stone, found in hut-circles in Holyhead Island, on the estates of the Hon. William Owen Stanley, F.S.A.

(Scale, half original size.)



Fig. 13.

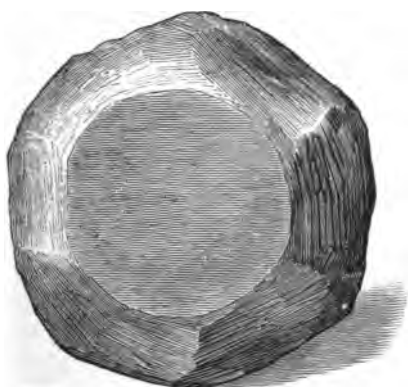


Fig. 14.

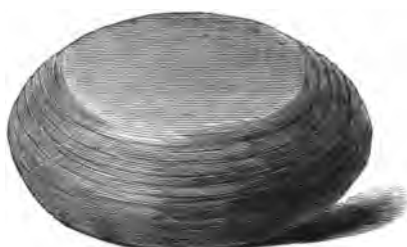


Fig. 15.

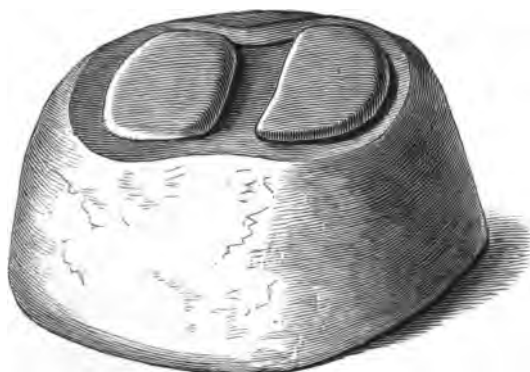


Fig. 12.

III. Cup and relics of stone, found in hut-circles in Holyhead Island, on the estates of the Hon. William Owen Stanley, F.S.A.

(Scale, two-thirds original size.)



Fig. 17.

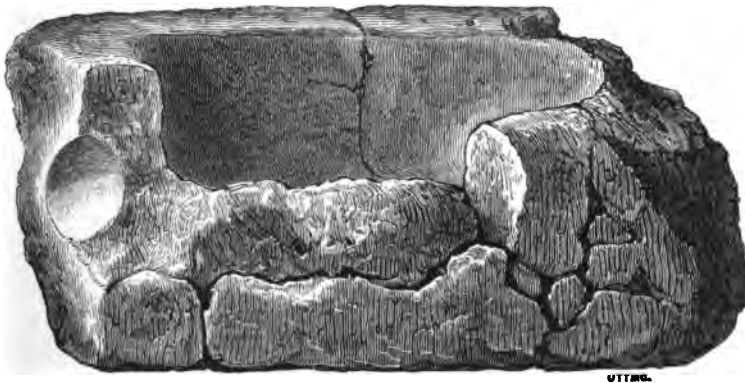
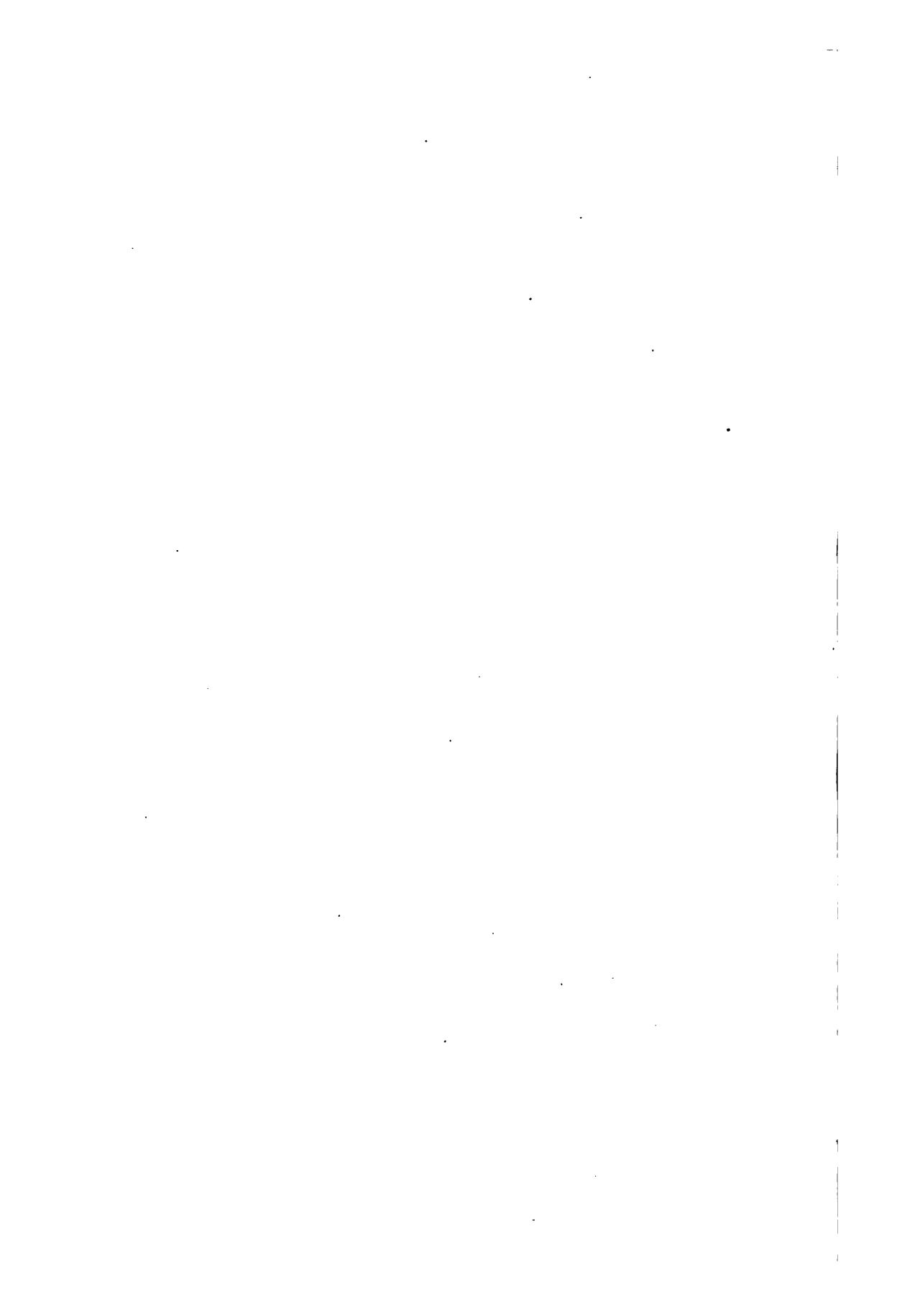


Fig. 16.

IV. Ancient objects of stone, found in hut-circles in Holyhead Island, on the estates of the Hon. William Owen Stanley, F.S.A.

Fig. 17.—Hammer-head, length $4\frac{1}{2}$ in. Fig. 16.—Oblong trough, length 18 in., breadth 10 in.



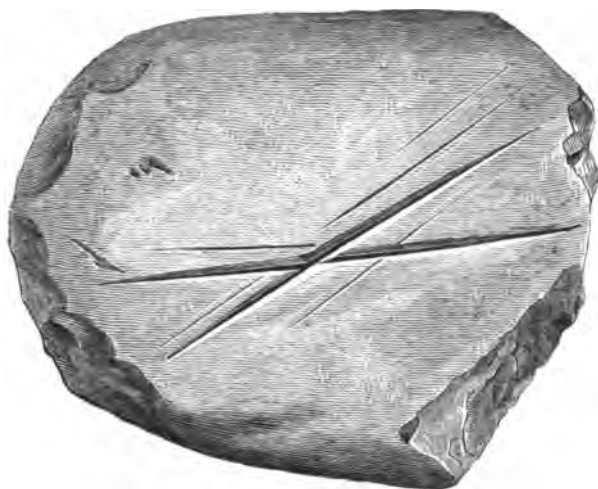


Fig. 18.



Fig. 19.

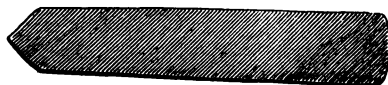
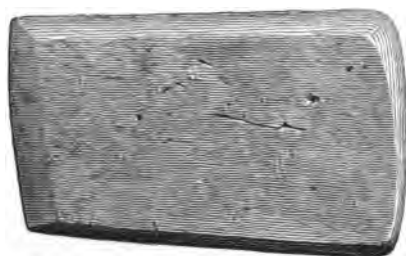


Fig. 20.

V. Ancient objects of stone, found in hut-circles in Holyhead Island, on the estates of the Hon. William Owen Stanley, F.S.A.

(Scale, half original size.)

CYTTIAU'R GWYDDELOD.

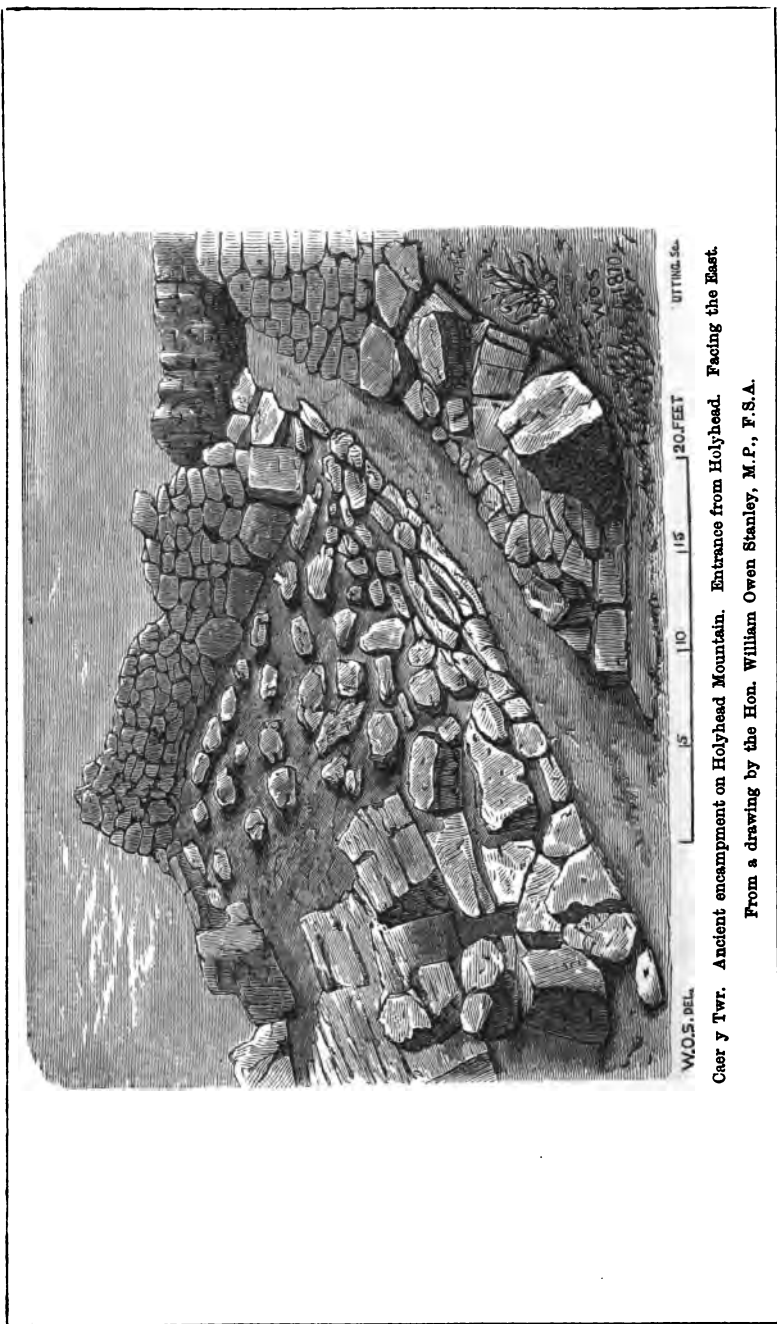
THIRD MEMOIR.

DISCOVERIES MADE, IN 1869, DURING FURTHER RESEARCHES AT
PEN Y BONC, TWR, AND TY MAWR, IN HOLYHEAD ISLAND;

WITH NOTICES OF CINERARY URNS, AND OF ANCIENT RELICS FOUND IN VARIOUS
PARTS OF ANGLESEY.

BY THE HON. WILLIAM OWEN STANLEY, M.P., F.S.A.

[Reprinted from the Journal of the Royal Archaeological Institute, Vol. XXVII.]



Caer y Twr. Ancient encampment on Holyhead Mountain. Entrance from Holyhead. Facing the East.
From a drawing by the Hon. William Owen Stanley, M.P., F.S.A.

RECENT EXCAVATIONS AT TY MAWR, PEN Y BONC, TWR
AND MYNYDD GÔF DU IN HOLYHEAD ISLAND, WITH NOTICES
OF ANCIENT RELICS FOUND AT CERRIG DDEWI, AND AT
OLD GEIR, IN ANGLESEY.

ARCHÆOLOGICAL research has until recent times for the most part been directed to the examination of tumuli and the early interments of those successive races who have occupied the British Islands, or to the exploration of the ancient camps which abound on our coasts or in the hill country. The numerous vestiges of habitations, which to the eye of the observer presented only the appearance of a raised mound covered with the short sward of our extensive plains, or the heathery turf, have been passed by without particular notice, although the circular huts so common in Wales were specially mentioned by Camden and our own learned and native historians, Rowlands and Pennant. Cultivation has most probably destroyed all traces of habitations in the rich midland counties of England, and perhaps, as we may suppose that timber was plentiful and at hand, the huts there were built of logs, which have decayed ages ago. In the open chalk downs pit-dwellings abound, and the greatest interest at the present time attaches to the recent discoveries by Mr. E. Stevens and others at Fisherton, near Salisbury. Sir R. Colt Hoare has described those in Wilts and Somersetshire. In Devonshire and Cornwall the rains and storms that sweep over the bleak and exposed moors have destroyed the inner earthen walls of the greatest number of the circular huts, leaving only the upright granite stones, which formed the outer circle. Still, however, in the sheltered valleys many of the huts must remain untouched, which would well repay the trouble of examination. Sir Gardner Wilkinson and Mr. Ormerod have done a great deal, but for the sake of com-

parison with our Welsh *cyttiau*, I would express a hope that further excavations may be undertaken. The circular form of hut is almost universal in England and Wales, but when we pass the borders of Scotland and approach the far North, subterraneous dwellings of a different form, with small chambers opening out from the central space, or built in the thickness of the walls, are common. The entrance to these habitations is frequently by a long, narrow, and low gallery, contracted in places. The reason for this peculiar structure may probably have been to protect the inmates from the cold winter blast, for at the present time the Esquimaux and the Icelander construct their habitations in this manner.

The very general interchange of local publications on archæological research between English and foreign societies has been productive of the greatest benefit; as an instance, Mr. Burt, our intelligent Secretary of the Archæological Institute, when on a visit last year to a friend, Mons. Le Men, at Quimper, in Brittany, having a copy of my memoir on the Ty Mawr huts near Holyhead, gave it to his friend, who, on reading it, recollected having seen similar remains in his neighbourhood. They proceeded at once to investigate them, and the result has been most satisfactory, bringing to our notice many stone implements, agreeing exactly with those found at Ty Mawr. We may, I am informed, expect shortly full accounts of the extraordinary *oppida*, as they are called, or hill fortifications, of the west of France, with vitrified walls of defence, enclosing large villages of huts, only differing from those in this country in being square instead of circular. An account of one of the most remarkable examples, Castel Coz, has been lately given by M. Le Men in the *Archæologia Cambrensis* (vol. i., fourth series, p. 286).

The valuable information about the lake dwellings of Switzerland by Dr. Keller, and the caves of the south of France by Mr. Edouard Lartet and others, has brought before us the manners and habits of life of those who dwelt in them, and there can be no doubt that further careful research in such habitations as still remain in our own country would supply us with much information that we require as to the early races who inhabited these Isles previous to and at the time of the Roman occupation.

It is with a view to assist those who are interested in these matters that I hope to give hereafter to the public in a

more connected form the results of the excavations carefully made under my own eye, during several years, of the cyttiau or huts so abundant in Holyhead Island.

The extent of these habitations proves how thickly the immediate locality was inhabited in early times, and if we seek for the cause, we may perhaps attribute the selection of this spot to the difficulty of providing food at all seasons of the year in the interior of Anglesey, or to the thick woods and boggy nature of the country. At Holyhead the natural food for primeval man abounded: fish of all kinds, the bones of which were pounded to make food, as Mr. Anderson, Curator of the Museum of Antiquities in Edinburgh, mentions as being common in the Western Islands; shell-fish, the shells of which are seen in the huts; sea-weed or laver; the numerous sea-birds and their eggs; the larger animals, red deer, goats, hares, &c.; these, with roots, including those of fern (*Pteris aquilina*), which we find were used for food, would support man before grain was sown and cultivated as store for winter use.

The several clusters of huts or villages in Anglesey, the remains of which are to be seen, and most of which I have explored, are, first, those at Ty Mawr; and some idea may be given of the extent of this settlement when we consider that the whole slope of the mountain as seen in the map given in my former memoir was covered with huts seventy years ago.¹ Joining on to this settlement, we find the huts and rectangular foundations at Pen y Bonc, which, from the pottery and querns of Roman form found there, must have been inhabited by Romans, and at Twr the Roman fibula found there may be also evidence of Roman occupation. Pen y Bonc and Twr are slightly elevated above the bog. A little distance to the south and west we found hut remains at Plas and Mynydd Gôf Du. In all these the stone implements were nearly the same, and these sites must have been inhabited at the same early period. In no other part of Anglesey that I know of are the cyttiau so numerous, and in many places they are only found within the hill camps or fortifications, as at Llugwy, Porthamel, Llaneugrad, Tynsylvy, and Caer Leb. These villages had apparently a rude kind of defence by a

¹ Arch. Journal, vol. xxiv. p. 229.

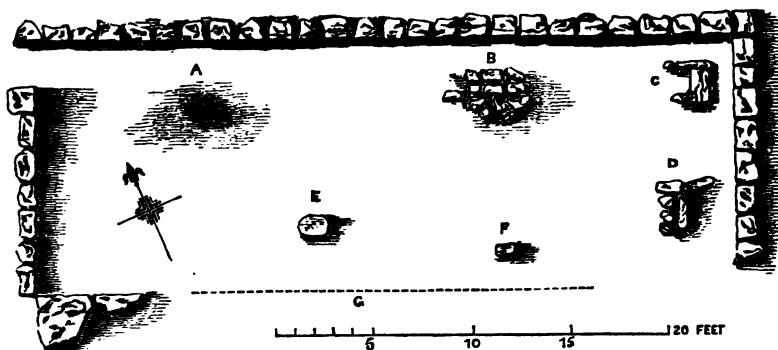
wall surrounding them. The walls of the huts are constructed generally of a double row of upright stones fixed in the ground, and smaller stones with earth built between them ; a similar mode of construction is found in France, at Castel Coz, near Brest. The settlements appear to have been connected by a line of signal hills, from which, by smoke in the day, and fire at night, any danger threatening might be made known. The most remarkable signal hills are at Capel Llochwyd and Ynys Ben Las, in the Penrhos river, near the Lyrad cluster of huts, about five miles distant from each other, but a depression in the formation of the land makes them easily seen from each other. They are both placed on conical rocks, at the top of which there is a cairn of small stones, slightly concave, or with a slightly raised outward ridge, which may have been to contain the fuel, gorse, fern, or heath, and to prevent too fierce an action of the wind upon the fire. At Capel Llochwyd, near the foundations of the old chapel, and under this conical signal rock, are the foundations of three circular huts, either to house the watchers for the signal fire, or in later times for the attendant of the chapel. A half-florin of Edward III. was found in the ruins a few years ago.

These fire-signals were common, and extended, no doubt, all round the coast from Chester to Anglesey, and so on to the south of Wales and Cornwall. Sir Gardner Wilkinson mentions these coast defences in Ireland. Dr. Petrie considers that the round towers in later times might have been used for the same purpose.

I have already² given a full description of the objects found in excavating the huts at Ty Mawr, and a great number of engravings of the stone relics found in them. It can only be by a careful examination of these and of their probable uses, comparing them with similar implements of stone found elsewhere, that any one can pretend to form an opinion as to the period at which these huts were first inhabited, or the occupation of the inmates, if only industrial, and if the stone objects were only used for the production of food ; or if, taking notice of other peculiarities in the fire-places and the substances found, some metallurgical operations were carried on either by the natives, or by the Romans employing the inhabitants.

² Arch. Journal, vol. xxvi. p. 301.

I will not repeat my former description of the first discovered huts, but since the publication of the two former memoirs, I have continued excavations at Pen y Bonc and Twr. At Pen y Bonc a rectangular building has been cleared out, measuring 36 ft. by 15 ft. internal measure, a ground plan of which is given here. The remains of three fire-places were found, constructed in the same manner as those described at Ty Mawr in my second memoir (*Arch. Journ.* vol. xxvi. p. 301), but there was a greater quantity of charcoal, scoria and burnt clay ; round the centre fire-place



Ground-plan of foundations of a building at Pen y Bonc, near Ty Adda and Ty Efa, and marked D, in the plan (*Arch. Journ.*, vol. xxvi. p. 307). When excavated the form proved to be rectangular, not round as there shown. A. Scoria and charcoal. B. Large hearth, scoria, charcoal, vitrified pipe, &c. C, D. Fire-places. E. Large grinding-stone. F. Small grinding-stone, muller, &c., colored red.

were the singular bottle-shaped lumps of burnt clay, surrounding a pipe of highly vitrified matter (see plate IV. figs. 1, 2); quantities of broken pieces of pottery of three kinds were also found here, all which Mr. Franks considers to be Roman or Roman-British ware, a coarse white pottery used for *mortaria*, and by some supposed to be made in Shropshire, while others think they were imported from Gaul. These pieces were portions of the upper rim of a large vessel from the curve, about 18 in. diameter; two pieces had been joined together by an iron rivet, which would denote that the vessel was valuable; the other kinds were common Samian, and a richer kind with a red polished surface. Excavated from the floor of this building was a quartzite grinding stone much worn by friction and deeply tinged with red, such as would be produced by grinding hæmatite of iron (plate V. fig. 4); fragments of circular grinding stones were found near it, also tinged in the same way with

red ; this may have been from grinding hæmatite of iron for body-paint, or perhaps for smelting with greater facility.³ A great heap of shells, oysters, periwinkles, and limpets, like a *kjökkenmödding*, was found outside.

We know that the Romans when they invaded Britain found the natives acquainted with the working of iron. In the *Sussex Archæological Collections*, vol. ii. p. 170, we read, "Dr. Mantell the distinguished geologist remarks, it is an interesting fact that all our principal iron works obtained their metal from the ferruginous clays and sands of the Wealden—in other words, from iron produced by vegetable and animal decomposition in the bed or delta of a mighty river which flowed through countries inhabited by the *iguanodon* and other reptiles—a kind of bog ironrag, composed of clay, gravel, and perhaps 25 or 30 per cent. of oxide of iron ; this manufacture dates back to the time of the Romans. In all these huts there are indications of iron in slag. I have before stated that an iron formation is contained in a fault near the spot. The Rev. W. Wynn Williams has forwarded to me specimens of iron cinders

or slag identical in appearance ; these were found in *cyttiau* at *Llangeinwen*, on the other side of Anglesey.



Excavations have also been made at *Twr*, about a quarter of a mile east from *Pen y Bonc*, on the side of the bog, but slightly above it. The tenant, on removing a heap of stones and earth covered with gorse, found the remains of foundations, some square, others round. These were excavated with care, and a little below the surface we came to a flat stone about 3 ft. in diameter, hollow underneath, and on removing the earth we found it to be a stone table or flat slab unhewn, supported by three square stones about a foot high above the level of the floor of the hut, which was sunk about 5 in. (Plate VII.



Ground-plan showing the position of the stone table and seat at *Twr*.

³ See No. 1 specimen, described by Professor Ramsay, found in the huts at *Ty Mawr*, *Arch. Journ.* vol. xxvi. p. 310. It was also analysed by Mr. J. Williams,

of the Assay Office, *Mona Mine*, *Amlwch*, Anglesey, who found it to be iron ore, containing about 20 per cent. of iron.

fig. 1.) Close by was a single block of stone of the same size set up apparently for a seat (fig. 2). There was also a flat stone 2 ft. long, placed upright, with the top chamfered off; it had the appearance of a grave-stone. (Plate VIII. fig. 1.) Near to these was a drain about 34 ft. long, constructed of rude slabs of schist placed in the form of a V with the bottom cut off; one of the upper covering-stones was drilled through with a round hole about 3 in. in diameter. (Plate VII. fig. 3.) Much ferruginous ochre was found in the drain, probably the deposit from the soil, which is greatly impregnated with iron. A flat rubbing-stone, with a smaller one on the top, was found close by; it was smoothly polished by friction, and the upper stone was left as when last used.

The stone mortar (plate VIII. fig. 2) was found in this hut, together with the bow of a Roman fibula in bronze (*ib.* fig. 3); the drain-like channel did not appear as if intended to take water away, as it was on a level, and considerably above the level of the ground near.

I have read that similar drains were supposed to have been used for ventilation in the close habitations of early times; this might explain the round hole, which would admit air into the hut.

Having mentioned the probability of paint having been manufactured, I will quote from Mr. George Petrie of Kirkwall, in his notice of Ruins of Ancient Dwellings in the Bay of Skaill in Orkney (Proceedings, Society Ant. Scot., vol. vii. p. 210), where he gives the following facts relating to the discovery of pigment. He mentions, amongst various relics, stone cups, perforated and spherical objects, and that one of the cups when found contained a mass of white clay or pigment which had apparently been kneaded; and on a level and near to it was another stone cup or small vessel of clay, in which was a lump of similar clay or pigment, which had apparently been rubbed down, about half a foot square; a small piece of red pigment lay in another place, and a still larger mass, resembling a brick in form, was also discovered in the ruins. He found a piece of blue-coloured pigment in a kitchen midden in Westray, also with stone and bone implements exactly resembling those found at Skaill, and on two other occasions he found blue and red pigments. The red pigment, Mr. Petrie observes in a note, has probably been obtained from hæmatite of iron, as several pieces of

ore were found in the ruins, a portion of which was analysed by Professor Ald, Royal Arsenal, Woolwich, who stated that he found it to be siliceous hæmatite with traces of cobalt.

In the work by Mr. E. T. Stevens entitled "Flint Chips," p. 169, it is stated that hæmatite was found in the Swiss lake dwellings at Robenhausen, probably used as paint, and a similar substance had also been found among the remains of the cave dwellers and Ohio Indians in the mounds. At Mynydd Gôf Du, on Penrhos Feilw, amidst the remains of a cluster of huts almost obliterated by the culture of the land, numerous stone mortars of large size, pounding stones, and saddle-querns were found, many of which were built into the walls. The old tenant remembers that his grandfather said that many of these huts were breast-high in his time, and one was repaired and occupied by a family. This must have been more than a hundred years ago.

In these researches we are unfolding the pages of ancient evidence as regards the habits of the inhabitants of Anglesey, which have for so many ages been hidden in the earth, but now reveal themselves for our instruction.

I might speculate at great length on these topics, but having, as I believe, nearly exhausted all our means for obtaining further information, I submit the account of all our discoveries at the cyttiau at and about Ty Mawr to the public, so that each archæologist may form his own conclusions, and, I hope, be incited to follow out further inquiries into any similar remains in his neighbourhood.

SEPULCHRAL URNS AND CELTS FROM CERRIG Y DDEWI, LLANGWYLLOG, AND STONE QUERNS, &c., FROM GEIR, IN THE PARISH OF LLECHGWYNFARWYDD, ANGLESEY.

In the parish of Llangwyllog, near Llangefni, in Anglesey, on a farm belonging to Sir R. Bulkeley, Bart., called Cerrig y Ddewi, or Druidical Stones, several sepulchral urns and celts were found by labourers when levelling some mounds of earth. Cerrig y Ddewi stands on rising ground above the small river Cefni; a few mounds slightly raised above the level of the field still remain to be seen, with the ends of large stones, which may have formed the cist; and there is little doubt that if these mounds were carefully examined, urn burial would be found beneath. In a field near to Bodffor three large stones, forming a triangle, are still standing;

and it is said that many similar stones have been removed in late years from other fields near. A few years ago the Central Anglesey Railway was made, which passes near Cerrig y Ddewi, when several urns were reported to have been broken up by the workmen employed.

About twenty years ago, Mr. H. Pritchard, of Trescawen, rescued the urns and celts here described from the same fate, and it is to his kindness that I obtained them for the purpose of being engraved; they are now deposited by me in the British Museum.

The larger urn (plate IX. fig. 1) is a fine specimen of the sort usually found in Wales; it was much damaged, and filled with burnt bones and earth. The smaller one (fig. 2) contained no bones; it is of a peculiar shape, like the nave of a wheel, made of coarser clay than the other, of a bright red-coloured paste, probably the clay of the locality. There are seven small round perforations around the middle of the little vessel. The under side is slightly hollow. This is one of the curiously perforated cups hitherto called "Incense Cups." This has for a long time appeared to me a misnomer, and that they might more likely have been used for the purpose of holding fire, always ready at hand for use, either hung up in the hut, or to be carried on hunting excursions when away from home, the damp and rainy nature of our climate making it more tedious to obtain fire by friction, as is the custom of the natives in hot parts of the world where rain is hardly known. These perforated cups, sometimes with long slits at the side, or round holes, even at the bottom of the vessel, from their make would facilitate the admission of air, and thus serve to keep alive the glowing embers of charcoal or the smouldering fire in fungus, rotten wood, amadou, or moss. The current of air might easily be modified, if too brisk when in motion, by placing the lighted substance in an outer coating of moss, slightly damped, or fibrous bark of a tree. The North American Indians are said to carry their fire in this way when on the war track or hunting expedition; and the Australian savage has his fire-stick to prevent the delay and trouble of making fresh fire at every halt.

Mr. Albert Way, to whom I first mentioned this possible use of these so-called "Incense Cups," and with whom I have frequently discussed the subject, suggests that they are too

small for the purpose of holding fire or embers ; but I do not see that this is any real objection, as fresh fuel could be easily carried and added when required. He also, I am well aware, is of the opinion that all cinerary urns found in the British Islands were only vessels for ordinary domestic use applied to the purpose of burial, and that none were ever made purposely for sepulchral rites. I agree with him to a certain extent, but not entirely. True, we find in Asia Minor the great oil-jars or wine amphoræ used for burials, two or more skeletons being found in the same jar ; but, on the other hand, the Greek, Sicilian, and Etruscan vases or funeral urns are adorned with figures and emblems connected with the pomps and ceremonies of death and burial. There is also a peculiar style of ornament in all our sepulchral urns which suggests the idea that they were expressly formed for this purpose. Mr. Way certainly seems to favour my view in his remarks on "Incense Cups." (Arch. Journ., vol. xxiv. p. 13.) Nothing that is suggested by him is without value, and his extensive knowledge and experience on all these matters is not lightly to be disputed. I have, however, introduced these few remarks in this paper, to induce others to give their attention to these peculiar perforated cups, which I believe are rarely, if ever, found out of Great Britain and Ireland.

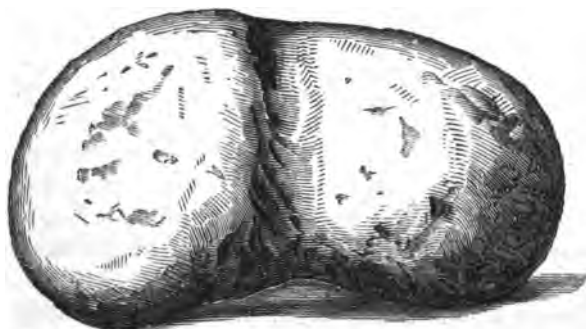
If, as is here supposed, these cups were used to contain fire for the purpose of incrimation, and were perhaps placed on the breast of the corpse when conveyed to the place of interment, selected usually by the side of a stream or remote spot by the sea side, together with the wood or other combustible matter for burning the body, it would be natural to deposit the little fire vessel in the same grave with the ashes of the dead, just as we find frequently a bronze pin or small knife, or, as at Tomen y Mur,⁴ a wooden needle, all which may have served to tie up the selected bones from the funeral pyre in a cloth, and cut the string that bound them ; everything connected with the burial would become sacred, and be deposited in the urn holding the bones, whilst the drinking-cup, weapons, or ornaments used by the deceased would be placed outside the urn, but in the same grave.

⁴ Figured Arch. Journ., vol. xxiv. p. 17.

The stone celts and bronze palstave (plate X. fig. 3), with a whorl or button, were found near the urns; it has been impossible to collect evidence whether they were found in the same tumulus or not. The stone celts are not common in Anglesey; and the stone of which these are made does not appear to be known in the island. I have one similar to the small specimen; it was found near Holyhead, at Ty Du, with a circular stone or disc, such as are frequently found with Celtic antiquities, and are supposed to have been used as quoits.

OLD GEIR, OR GEIRN.

This is a commanding position, about the centre of the island of Anglesey, an ancient camp, as the name denotes, situated in Llechgwynfarwydd parish. There are remains of hut circles and mounds of earth. While cultivating the land many stone hammers, querns, and round grinding-stones have been found. Owing to the kindness of Miss Jones and Dr. Walthew, joint owners of the farm, I have obtained permission to exhibit and have the stones found there engraved. The round rubbing-stones (plate XI. figs. 2, 3), and a quern (fig. 1), of a very shallow fashion, were found together, and probably the round stones were used for bruising some substance in the quern. The others, stones notched round the centre, show no sign of having been used as hammers for pounding, and I should think might have been



Hammer-stone, or weight (?), found at Geir, Anglesey. Length $5\frac{1}{2}$ inches.

used as weights for weaving or stretching cords of sinew or skin. I do not believe that they were weights for fishing, as has been thought probable. (See plate XI. figs. 4, 5.)

At Tyneosydd, Lantrisant, a farm belonging to Mr. H. Pritchard, of Trescawen, there was an upright stone with a Latin inscription. First it was placed in a field as a rubbing-stone for cattle, a common custom in Anglesey; it was then used as a gate-post. The letters are obliterated, but some words are said to be,—“*Et moribus disciplina et sapientia.*”



Inscribed stone, Trescawen.

On examining the stone carefully and its peculiar shape, like the lid of a modern coffin, I fancied that the original stone had been worked into this shape for a later interment, and that the first inscription had been interfered with, as some letters at the edge of the stone seemed to have been cut in half; there is also a rude inscription on the side of the stone, at the upper end:—*AVROE . APIDIBI*. The spot in which it was found is not far from Presaddfedd, supposed to have been a Roman *præsidium*, according to

Rowlands (*Mona Antiqua*, p. 107). May not this inscription have been to the memory of some able Roman governor, who, by his careful discipline as to the manners of the people, and his wise rule, made himself of note in this remote part of Roman dominion? Some years ago it was removed by Mr. Pritchard to Trescawen, and is carefully preserved in his grounds there.

It must be observed that all the huts excavated since 1862 differ entirely as to their interior divisions and internal arrangements. The first hut excavated by Mr. Albert Way and myself in 1862, and described in the first published memoir, contained a fire-place distinctly formed of upright flat stones about 2 feet high, the fire-place being filled with round and flat stones, all bearing the appearance of having been heated in the fire, either for the purpose of baking food upon them, or boiling water in skin or other receptacle. The hut was divided by upright slabs into two compartments. The stone implements found were of grit stone,

and were considered to have been corn-grinders ; the remains of shell-fish, such as are usually eaten to this day, were found in a heap. In all the huts excavated since 1862 the fire-places are essentially different, being constructed of large stones generally in the centre of the hut, with smaller fire-places formed at the side of the centre one or in the side of the hut, in some instances with a well-formed chimney in the thickness of the hut walls. The rude stone pounders or mullers, the mortars or basins, and heavy flat stones set in the floor of the hut for grinding or breaking stone or some hard material, present no appearance of having been used for preparing food. The stone implements are all of the rudest kind,—sea-worn pebbles selected for their form, and, in many instances, worked possibly by hand to make them more suitable for the purpose required. The very coarse pottery found in the Ty Mawr huts could not, I think, have stood the heat of fire placed beneath the vessels, but might have been used to hold water, to be heated with stones. Their appearance is exactly similar to that of the coarse pottery I saw from Fisherton, near Salisbury, at the Blackmore Museum, which Mr. Stevens pointed out to me, the interior surface being also coated with carbonaceous matter.

Since the foregoing memoir was written a fresh settlement has been discovered near to that of Plas. As far as can now be made out the building was rectangular, like the last one excavated at Pen y Bonc. The walls remaining were formed of stones about 3 feet long, set upright, with the face of the stone turned outside ; but every fourth or fifth stone was placed edgeways, as a binding stone. The stone mortars and pounding stones brought to light on this site were of very large dimensions ; and amongst them was a relic of metal that appeared like the socket end of a bronze celt, weighing about one pound ; this rough fragment is much corroded ; the implement seemed to have had the side loop, and must have been unusually large when perfect. One of the mortars discovered here measured 16 inches in diameter ; near it was a circular stone cover, worked into a round form out of a thin slab, about an inch in thickness, and which precisely fitted as a lid to the mortar. A considerable number of the perforated stone buttons or whorls were found about the neighbourhood.

NOTICES OF THE REMAINS, IMPLEMENTS OF STONE, ETC.,
FIGURED IN THE ACCOMPANYING WOODCUTS.

PLATE I.—Ty Mawr.

Elevation and ground-plan of part of one of the *cyttiau* excavated in 1868, showing the fashion of the fire-place, also the position of a stone mortar and grinding-stone found near it. Compare the ground-plan of this circular habitation, No. 3, *Archaeol. Journal*, vol. xxvi. pp. 304, 319.

PLATE II.—Ty Mawr.

Fig. 1. Oblong quern, or mortar, with a cylindrical grinding-stone, or muller, found within it, and formed with a central cavity on each side of the cylinder, possibly to give the thumb and forefinger a better hold in grinding. Compare a similar appliance, *Archaeol. Journal*, vol. xxiv. p. 247. Another, identical in fashion, has been found by M. Le Men, in excavations at Castel Coz, near Brest, Brittany. See his *Memoir*, *Archæologia Cambr.*, fourth series, vol. i. p. 292.

Fig. 2. Small stone mortar or cup, possibly for use as a lamp, in like manner as little vessels found in the Hebrides. Breadth, 3 in.

Fig. 3. A shore-pebble, suited for use as a polisher.

Fig. 4. A large, ponderous shore pebble of quartz, suited by its form to be used as a pounding-stone, but possibly shaped in some degree artificially. The weight is 10lbs. Compare other relics of this description, *Archaeol. Journal*, vol. xxvi. p. 320.

PLATE III.—Ty Mawr, and Mynydd Gôf Du, near Pen y Bone.

Fig. 1. Whetstone and hand-hammer of peculiar fashion, found near the spot where the bronze celts, spear heads, &c., were discovered in 1832. See *Archaeol. Journal*, vol. xxiv. p. 253. Sharpening stones with grooves, caused by friction of certain edged tools, had previously occurred, and are figured *ibid.*, vol. xxvi. p. 321. Probably a conveniently portable implement used in journeys.

Fig. 2. Whorl or button (?). It has several slight grooves or scratches radiating from the central perforation, caused possibly by the pin of bone or metal that may have served as fastening. See notices of objects of this description, *Archaeol. Journal*, vol. xxiv. p. 249.

Fig. 3. Saddle-quern, or corn-crusher, with part of the rubber, of trap or basaltic rock. Compare other examples, described *Archaeol. Journal*, vol. xxiv. p. 245. Found at Mynydd Gôf Du. Similar saddle-querns were found in the *oppidum* of Castel Coz, in Brittany, by M. R. F. Le Men, *Arch. Cambr.*, fourth series, vol. i. p. 292, fig. 1.

Fig. 4. Sections of large mortars, of trap rock; many of various sizes were found. From Mynydd Gôf Du. The larger of the two here figured measures about 24 in. in breadth; diameter of the cavity about 10 in. The section appears to show that these mortars were used with peculiar pestles of somewhat pointed form, and possibly like those noticed, *Archaeol. Journal*, vol. xxiv. p. 252. A large mortar of granite, the cavity of which is of the same fashion, found at Treveneague Cave,

St. Hilary, Cornwall, is figured in Mr. Blight's Account of the exploration, p. 10. These objects appear obviously suited for crushing, rather than grinding some kind of food.

PLATE IV.—Pen y Bonc.

Figs. 1, 2. Fragments of a pipe of vitrified matter, surrounded by an irregular encrustation of slightly-burnt clay. The two portions here figured measure together about 8 in. in length. They were found under or near the central fire-place in the ruined building of oblong form, at Pen y Bonc, of which a ground-plan is given at p. 151.

Fig. 3. Portion of a stone muller, which in its perfect state may have measured about $8\frac{1}{2}$ in. in length.

Fig. 4. Heart-shaped pebble from the shore, suited for certain pounding processes. Several other implements of this description have occurred, selected, doubtless, on account of their form, which appeared suited for various uses. Compare these figured in a previous memoir on the relics found in hut-circles in Holyhead Island, *Archaeol. Journal*, vol. xxvi. figs. 7, 8, 9, p. 320.

PLATE V.—Pen y Bonc.

Fig. 1. Hammer-stone, or weight (?), of quartzite; length, 5 in. These implements, grooved round the middle, or "waisted," have repeatedly occurred in the cyttiau, and elsewhere in Anglesey. Compare specimens figured in the memoir on the habitation at Ty Mawr, *Archaeol. Journal*, vol. xxvi. pp. 303, 320, figs. 10, 11.

Fig. 2. Ovoid pebble, probably a pounding-stone, with traces of percussion at each of its ends.

Fig. 3. Implement of schist, supposed to have been used as a whetstone.

Fig. 4. Grinding-stone, as supposed, for paint, possibly for body-painting; the surface, which is much worn by friction, being strongly tinged with red color, as would be caused by grinding hematite upon the stone. Portions of circular grinding-stones, likewise stained with red, were found near it. These curious relics were found on the floor of the oblong building, of which a ground-plan is given in the foregoing memoir. Traces of the ancient usage of body-painting in the British Islands are of very rare occurrence; a few notices of objects imagined to be connected with the practice have occurred in the Hebrides, as stated in the foregoing memoir. Mr. Bateman found in the Liffis barrow, Derbyshire, with numerous relics of flint and stags' horn, three pieces of red ochre, that he concluded to be for body-paint. *Vestiges of Antiqu. of Derbyshire*, p. 43. In the Museum of the Society of Antiquaries of Scotland there is a small stone box, found in a "Picts' House" at the Bay of Skail, Orkney, that contains red pigment, supposed to be body-paint. It is figured in the notice of these primitive dwellings by Mr. G. Petrie, *Proceedings, Soc. Antiqu. Scot.* vol. vii. pl. xlii. A lump of white pigment was also found.

PLATE VI.—Pen y Bonc.

Figs. 1, 2, 3. Oblong pebbles, probably mullers, suited for pounding, or for use as small hand-hammers.

Fig. 4. Oval flat hammer head, of schist, pierced for hafting ; the perforation is worked from both sides, as shown in the section. Objects of this type, occasionally of circular form, seem to belong to the class of implements, by means of which other implements or weapons were chipped out or rough-hewn. See Nilsson, *Primitive Inhabitants of Scandinavia*, edited by Sir John Lubbock, p. 10 ; Lindenschmidt, *Alterth. uns. Heidn. Vorzeit* ; Heft i. taf. 1 ; Heft viii. taf. 1, &c. These perforated stones have been supposed, however, to have been sinking weights for fishing-nets.

Fig. 5. Ovoid pebble, with traces of percussion at one of its ends only. An implement of the same class as that figured, plate V. fig. 2.

Fig. 6. Portion of a flat polishing stone, or implement of some like use. It is a shore-pebble of quartzite, measuring in its present imperfect state rather more than 3 in.

PLATE VII.—Twr.

Fig. 1. A low table, formed of four roughly-shaped slabs, the top-stone being about 3 ft. in breadth, and raised on three stones about a foot in height.

Fig. 2. Roughly-shaped block of schist, that may have served as a seat (?). It was found near the table.

Fig. 3. Culvert or drain, 34 ft. in length, formed of rough slabs of schist, serving to cover a culvert formed of slabs of the like material placed diagonally, flagged at the bottom, which measured about a foot in width. The depth of the culvert was 15 in. It was partly filled with an ochreous deposit. A round perforation, of uncertain use, occurred in one of the covering slabs ; it has been supposed, however, that this, and also the little channel, may have served for ventilation, that must doubtless have been requisite in so very confined a space as the interior of the cyttiau, especially to supply air to feed the fires within, or possibly to assist in driving out the stifling smoke. In the remarkable subterranean dwelling in Sancreed, Cornwall, near Chapel Euny, the floor is described by Mr. Edmonds as "well paved with granite blocks, beneath which, in the centre, ran a narrow gutter or bolt, made, I imagine, for admitting the external air into the inmost part of the building, from whence, after flowing back through the cave, it escaped by the cave's mouth, a mode of ventilation practised immemorially by the miners in this neighbourhood when driving adits, or horizontal galleries underground." *The Land's End District*, p. 52.

PLATE VIII.—Twr.

Fig. 1. Upright slab, of schist, found near the table figured in plate VII. Length, 2 ft. ; breadth, 8 in.

Fig. 2. Oblong mortar or trough, of trap rock, found near the table ; at one of its ends there is a cavity, the intention of which has not been explained. This curious object is fashioned rudely. Length, about 12 in. ; greatest height, $7\frac{1}{2}$ in. A similar trough of trap rock, found in the cyttiau at Pen y Bone, in 1868, with a portion of another like object, is described, *Archaeol. Journal*, vol. xxvi. pp. 308, 320 ; fig. 16.

Fig. 3. Bronze bow-shaped fibula, of Roman type. The *acus* has been unfortunately lost.

Fig. 4. A hammer-stone, or weight (?). Length, $4\frac{1}{8}$ in. Compare plate V. fig. 1.

PLATE IX.—Cerrig y Ddewi, Llangwyllog, Anglesey.

Fig. 1. A cinerary urn, of pale brown ware, found in levelling some grave-mounds near Llangwyllog, Anglesey, on a farm belonging to Sir R. Bulkeley, Bart., called Cerrig Ddewi (Druidical stones). This urn contained burnt bones; the lower part was much damaged, and has been skilfully repaired by Mr. Ready. Height, 9 in.; diameter, $8\frac{1}{2}$ in. It was procured, with an "incense cup" (fig. 2), two celts, and a bronze palstave, by Mr. H. Pritchard, of Trescawen, through whose kindness these objects are now published; they have been presented to the British Museum. The site, where this and other relics figured in this and the following plate were brought to light, is near the spot where the antiquities of bronze and an amber necklace, now in the British Museum, were found in 1854. Arch. Cambr., third series, vol. xii. p. 97. These urns form a valuable addition to the series of examples found in Anglesey and North Wales, published Archaeol. Journal, vol. xxiv. p. 13.

Fig. 2. A diminutive vessel, of red brick-colored ware, in form resembling the nave of a wheel, and having seven perforations around it, as if for the spokes. Height, $2\frac{1}{2}$ in.; diameter, at the mouth, 3 in. This little urn seems to belong to the class designated "incense cups" by Sir R. Colt Hoare, of which many examples have been described and figured, Archaeol. Journal, vol. xxiv. p. 22. This appellation is by no means satisfactory; these cups may have served for the conveyance of fire, or for keeping it in the dwelling; but the subject presents points of great difficulty.

PLATE X.—Cerrig y Ddewi, Llangwyllog.

Fig. 1. Celt, of white magnesian stone, found, about 1840, near the two urns last noticed. The material, it has been stated, does not occur either in Wales or in Ireland, although it is believed that celts formed of a similar stone are found in the latter country. Length, $7\frac{1}{2}$ in.; breadth, at the cutting edge, 3 in.

Fig. 2. Smaller celt of the like material. Length, $4\frac{1}{2}$ in.; breadth, $2\frac{1}{4}$ in.

Fig. 3. Bronze palstave, of ordinary form, without a side-loop. Length, about $6\frac{3}{4}$ in. It is of somewhat Irish type, in the widely dilated cutting edge with recurved extremities. One of the bronze moulds found at Danesfield, near Bangor, a quarter of a mile from the ferry to Anglesey, is fashioned to produce objects of the same proportions and without a loop, the second being for looped palstaves. Arch. Cambr., third series, vol. ii. p. 127. See *ibid.*, pp. 122, 124, notices of bronze palstaves found in Anglesey and North Wales. Rowlands, in his *Mona Antiqua*, p. 86, records the discovery of a considerable number at the Rhied on the shore of the Menai. The Rev. W. Wynn Williams has given two, one of them without the side-loop, found near Llanidan, in the same parts of Anglesey. They are in the possession of Lord Boston. One of these palstaves has an unusual proportion of copper in its composition. Arch. Cambr., third series, vol. iii. p. 283.

PLATE XI.—Old Geir, Anglesey.

Fig. 1. Shallow quern or mortar, with which were found the stone balls next noticed.

Figs. 2, 3. Two stone balls, one of them formed with remarkable regularity. Diameter, nearly $3\frac{1}{4}$ in. and $2\frac{3}{4}$ in. respectively.

Fig. 4. Hammer-stone, or weight (?), of quartzite. Length, $5\frac{1}{2}$ in. See notices of relics of this description from various parts of England, in the lake dwellings in Switzerland, &c. ; Arch. Journal, vol. xxv. p. 47. Some of them may have been grain-crushers.

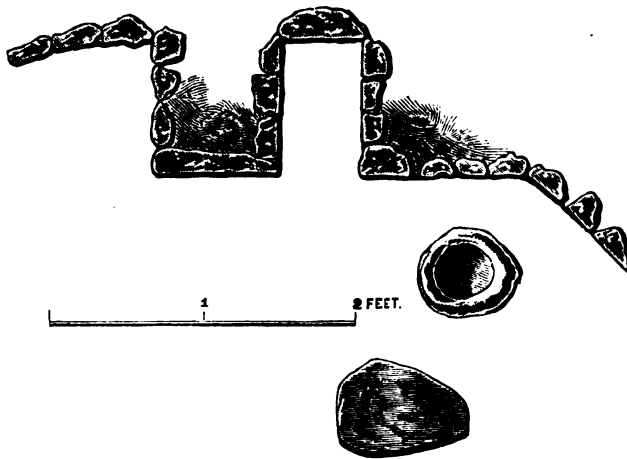
Fig. 5. Hammer-stone, of pale grey-colored sandstone, of peculiar form and elaborately worked. No similar example has been noticed. Length, $3\frac{1}{2}$ in. ; diameter, $2\frac{7}{8}$ in. It is supposed that it may have served as a weight for fishing-nets,—the “sink stone” of the northern antiquaries,—or possibly for the loom.

Fig. 6. Stone ball, fashioned with numerous facets strongly marked. Diameter, $2\frac{1}{2}$ in. Compare a similar object found in the previous excavations in 1868, Arch. Journal, vol. xxvi. p. 320, fig. 12.

CAER Y TWR, HOLYHEAD MOUNTAIN.

The entrance to this stronghold is represented as a frontispiece to the foregoing memoir ; it faces east, leading from the town of Holyhead. The Caer is about two-thirds of the distance on the ascent from the town ; it is surrounded by a rude wall of dry masonry, following the ridge of rock, which in many places is almost perpendicular, and from 40 ft. to 50 ft. above the plateau of the mountain below. This wall encloses an area of about 60 acres. The entrance is very steep—the wall on either side higher than in other places ; there is indeed some appearance, from fallen stones, that the entrance was defended by side walls for about 50 yards, after passing the opening in the enceinte. There is a narrow cleft in the mountain face to the west, above the *débris* of rocks that have fallen in some fearful convulsion, leaving a perpendicular face of rock 200 ft. in height. This gap, which is not seen from below, would only admit one person at a time. The sides are perpendicular rocks, 20 ft. or more in height, through which a very steep path winds, and might serve for escape or to secure access from the village of Cyttiau at Ty Mawr. The fortress is called, in the Ordnance Survey, “Caer Gybi,” as shown in a map that accompanies a former memoir (Arch. Journ. vol. xxiv. p. 230), but it is evidently a work of a much earlier period than the times when, according to tradition, some religious foundation was established by St. Kybi at Holyhead.

ANCIENT CIRCULAR DWELLINGS IN HOLYHEAD ISLAND.



Cittiau at Ty Mawr, Holyhead Island, excavated in 1868.

Elevation and ground-plan of a fire-place, showing also stone mortar and grinding stone found near it, in the circular habitation No. 3: Arch. Journ. vol. xxvi., pp. 304, 319.

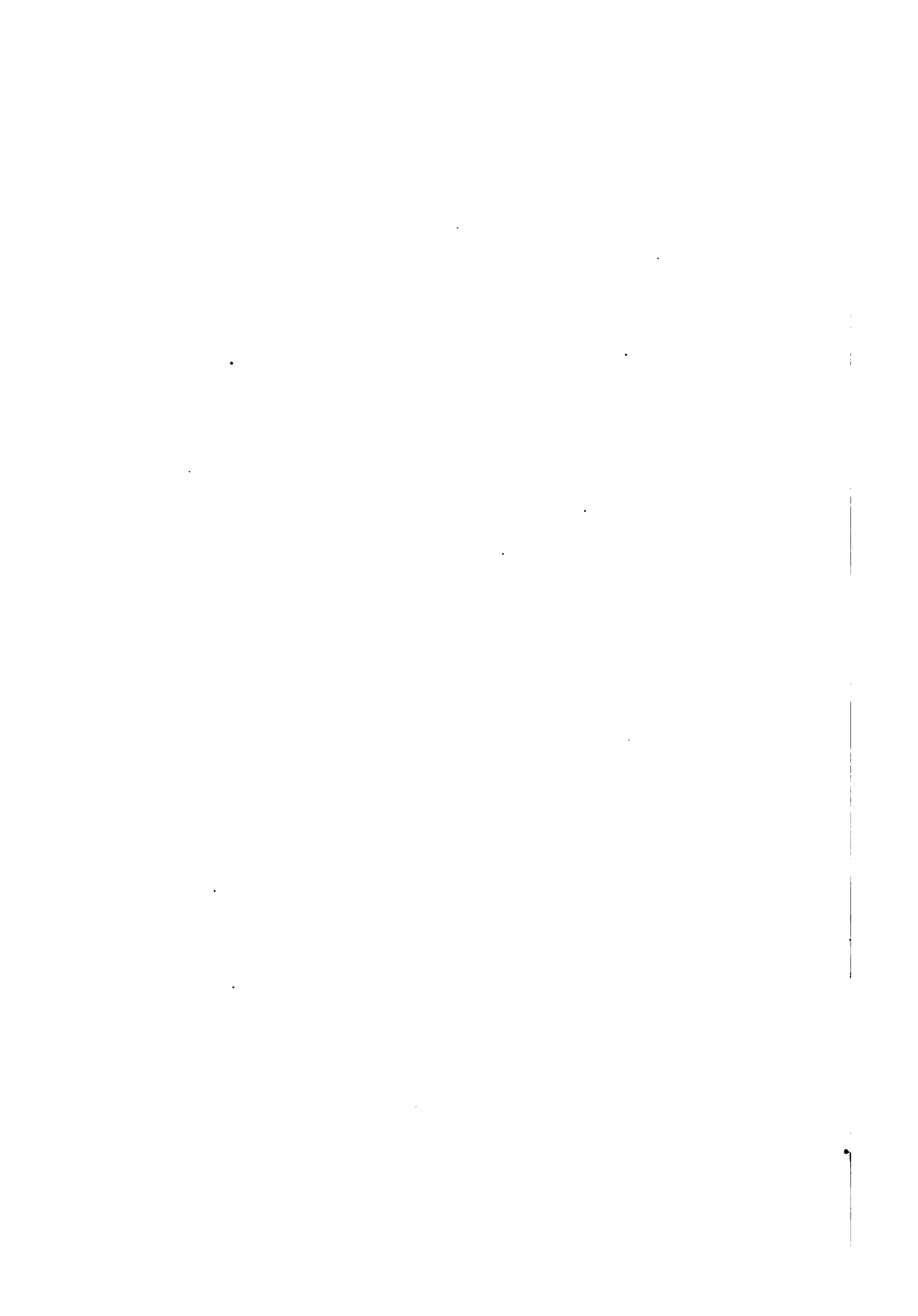




Fig. 1.—Quern and grinding stone. Width $11\frac{1}{4}$ inches.



Fig. 2.—Small mortar, or lamp(?). Width 3 in.



Fig. 3.—Polishing stone. Dimen. $2\frac{1}{2}$ in. $2\frac{1}{2}$ in.

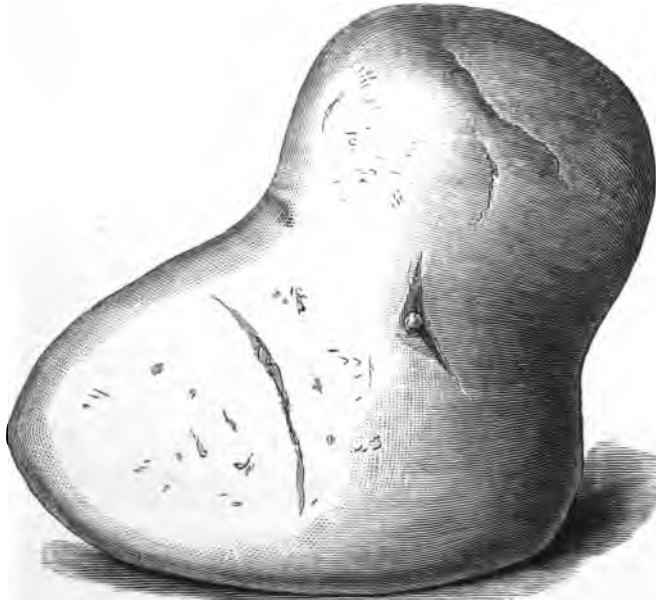
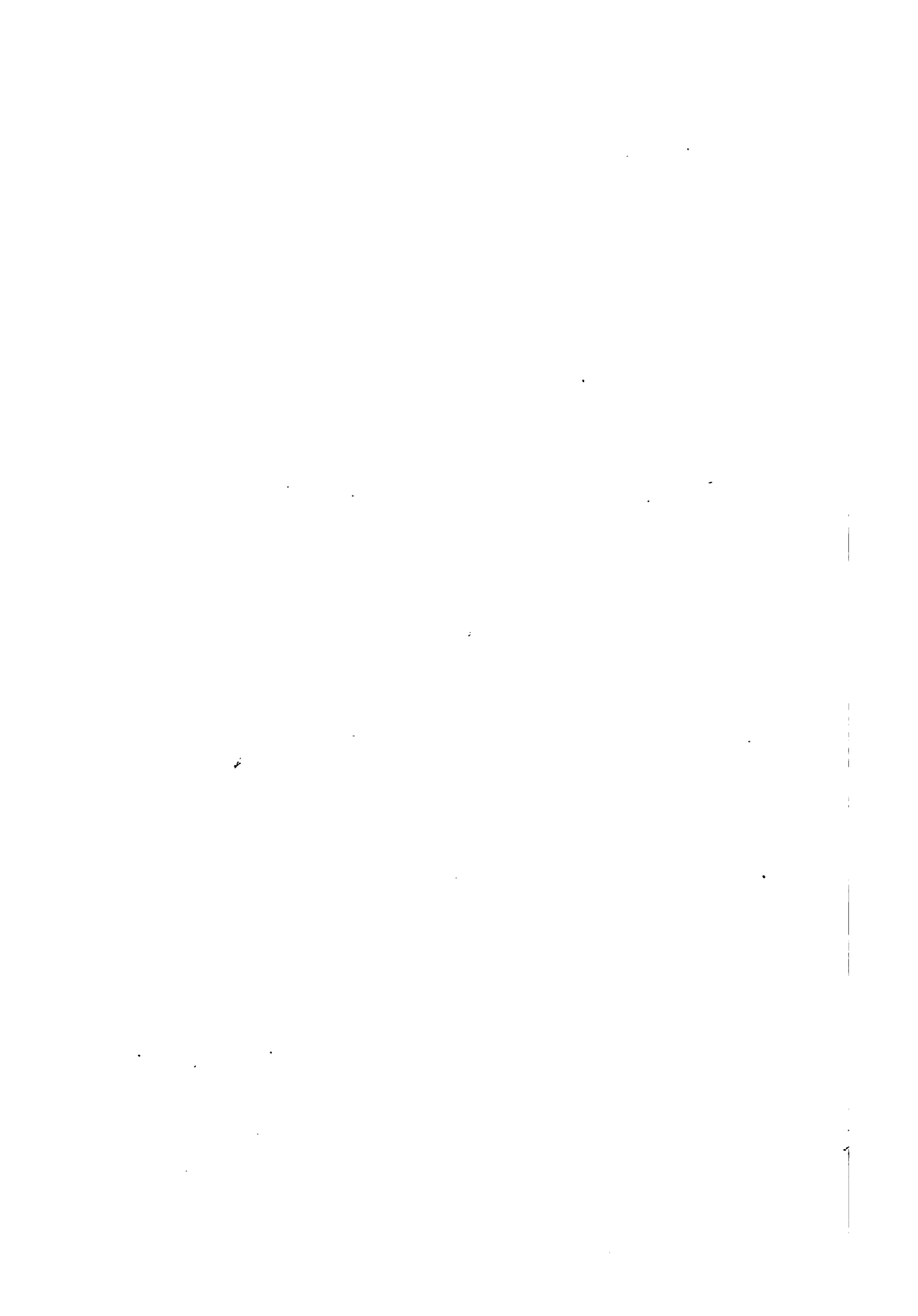


Fig. 4.—Pounding-stone, of quartz, probably a sea-shore pebble. Weight 10 lbs. Breadth about $4\frac{1}{4}$ in.
Ancient relics found in the Cyttiau at Ty Mawr, in Holyhead Island.

Plate II.



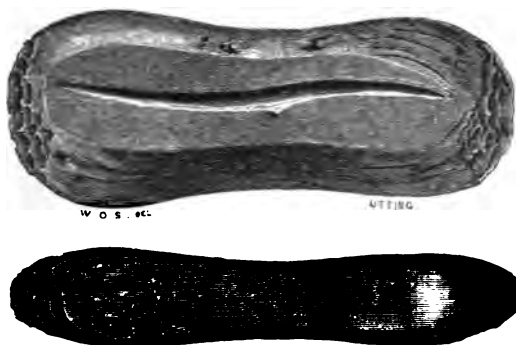


Fig. 1.—Whetstone found near the spot where the deposit of bronze celts, &c., was found near Ty Mawr in 1832. Length $\frac{5}{4}$ in.

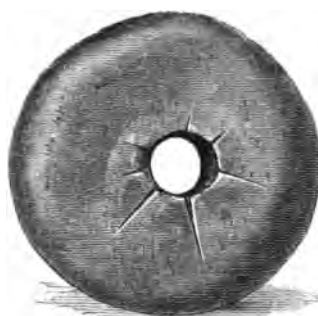


Fig. 2.—Stone whorl or button (?). Diameter $2\frac{1}{4}$ in.

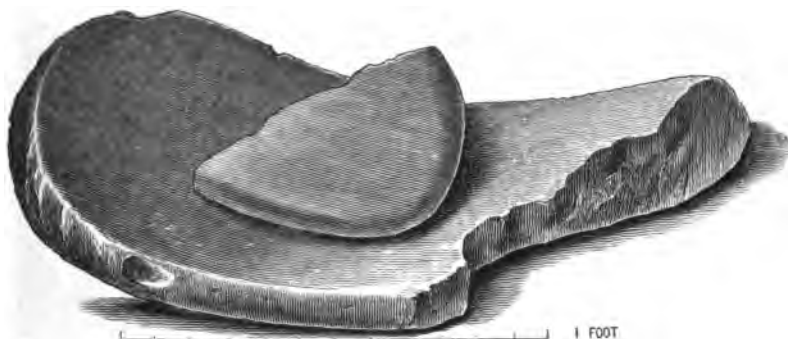


Fig. 3.—Saddle-quern and fragment of a rubber, of trap or basaltic rock. Found at Mynydd Gŏf Du, Holyhead Island.

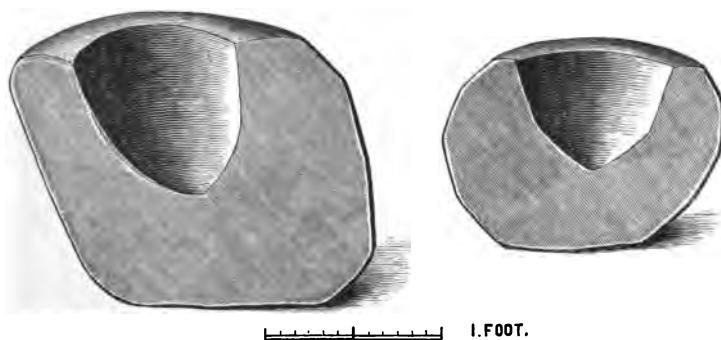


Fig 4.—Sections of mortars, of trap, found at Mynydd Gŏf Du, Holyhead Island.

ANCIENT RELICS FOUND IN HOLYHEAD ISLAND.



Fig. 2.—Vitrified pipe.



Fig. 3.—Stone muller. Length of the fragment $4\frac{1}{2}$ in.



Fig. 1.—Pipe of vitrified matter and burnt clay. Scale, two-thirds orig. size.

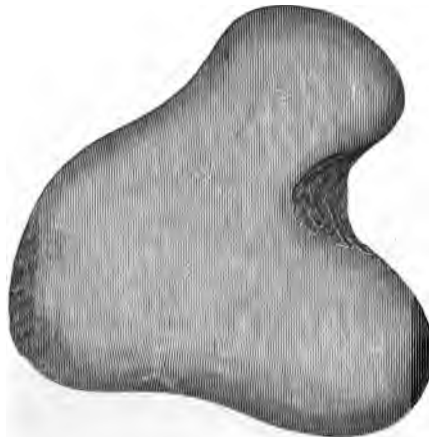


Fig. 4.—Heart-shaped pebble, probably a pounder (?). Breadth $4\frac{1}{2}$ in.

Implements of stone, and a vitrified pipe, found in the Cyttau at Pen y Bonc, Holyhead Island.

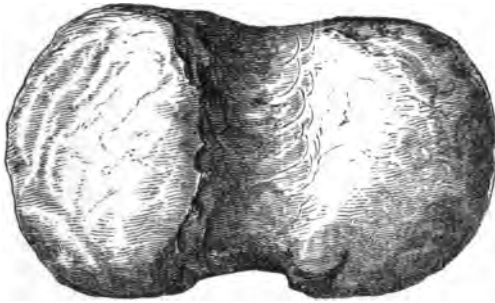


Fig. 1.—Hammer-stone, or weight(?) of quartzite.
Length 5 in.



Fig. 2.—Pounder. Length $3\frac{1}{2}$ in.

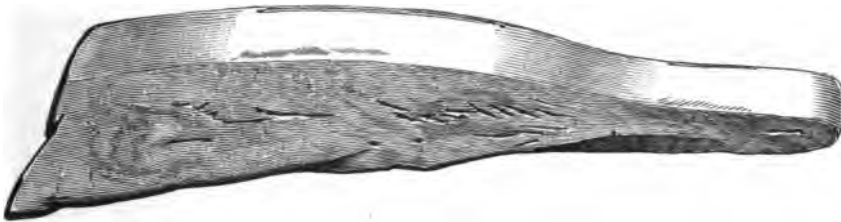


Fig. 3.—Whetstone(?) of schist. Length $6\frac{1}{4}$ in.

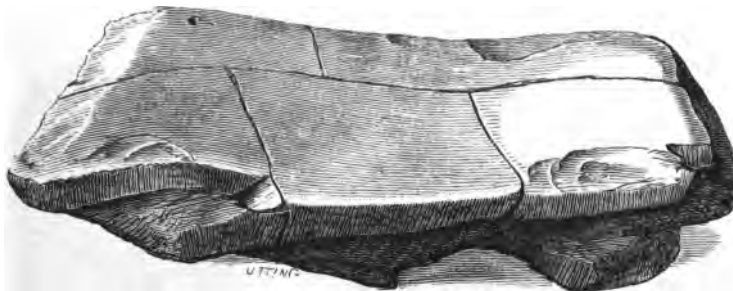


Fig. 4.—Grinding-stone, of quartzite, deeply colored with red, probably by grinding hæmatite(?)
Length 11 in.
Implements of stone, found in the Cyttiau at Pen y Bonc, Holyhead Island.



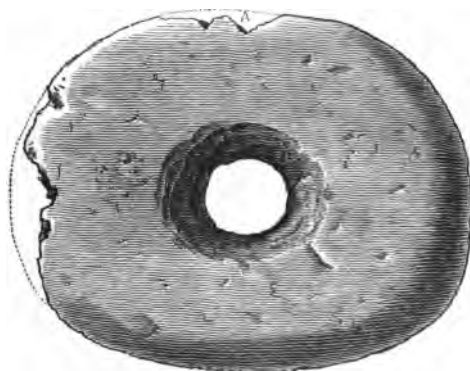
Fig. 1.—Length $4\frac{1}{2}$ in.



Fig. 2.—Length $4\frac{1}{2}$ in.



Fig. 3.—Length $4\frac{1}{2}$ in.



A

Fig. 4.—Hammer of schist. Length $3\frac{1}{2}$ in.



SECTION AT A



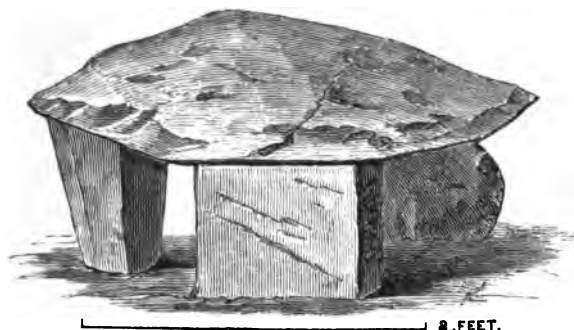
Fig. 5.—Length $3\frac{1}{2}$ in.



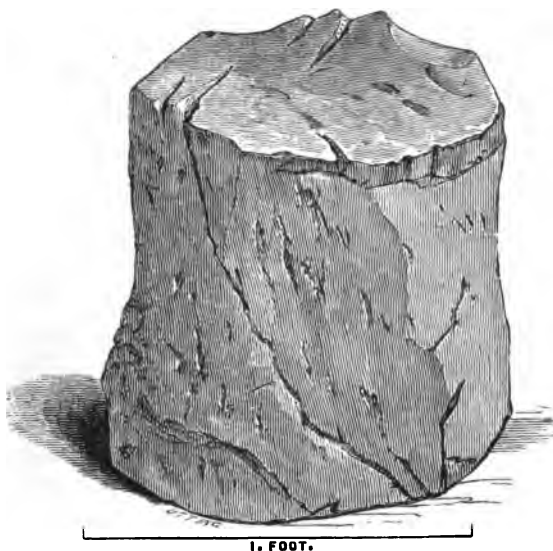
Fig. 6.—Polishing stone, of quartzite. Length $3\frac{1}{2}$ in.

Implements of Stone found at Pen y Bone.

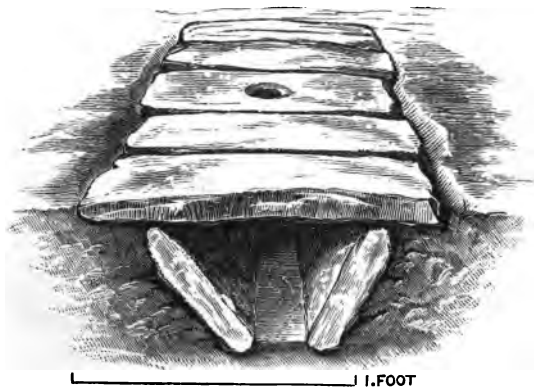
Plate VI.



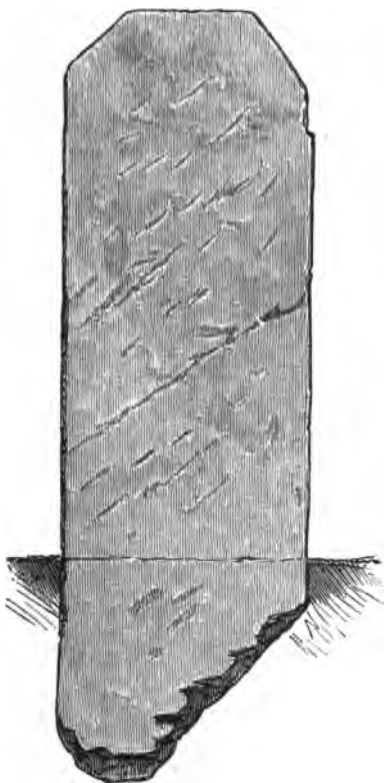
2 FEET.
Fig. 1.—Stone table, found amongst ruined foundations.



1 FOOT.
Fig. 2.—Block of schist, possibly a seat, found near the table.



1 FOOT
Fig. 3.—Drain, formed of rough slabs of schist.
Ancient relics found at Twr, in Holyhead Island.



6 IN.

Fig. 1.—Erect slab of schist, found near the stone table.

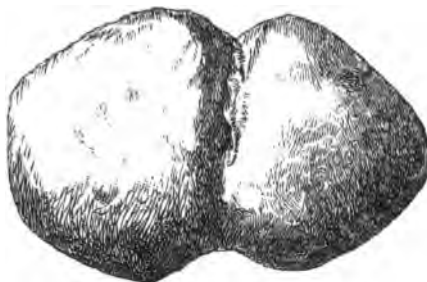


Fig. 4.—Stone hammer, or weight (?).
Length $4\frac{1}{8}$ in.



Fig. 3.—Bronze Roman fibula.
Original size.

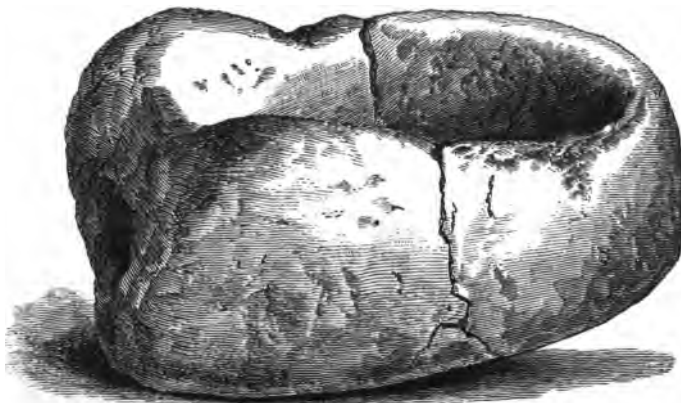
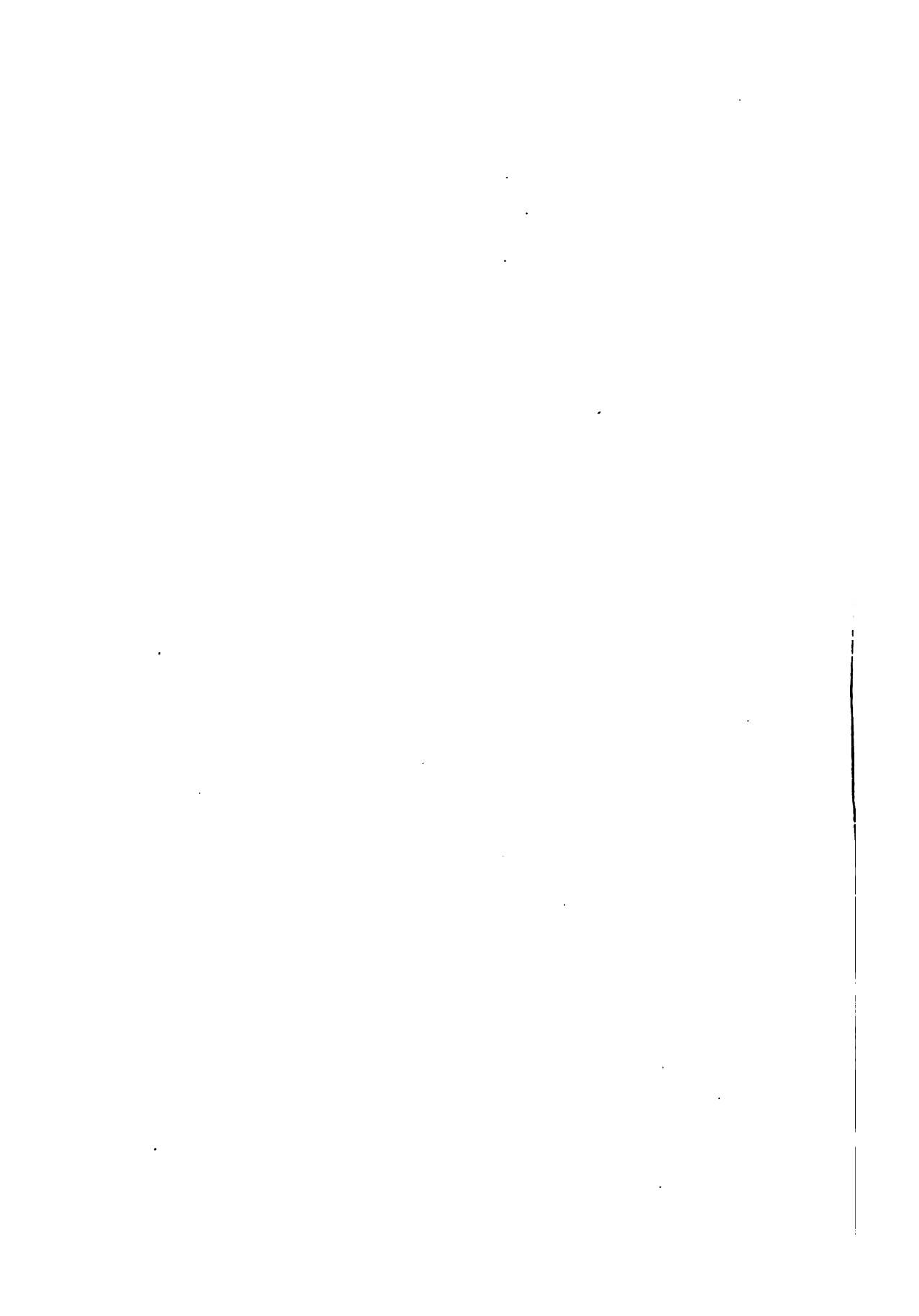


Fig. 2.—Trough or mortar, of trap, found near the table. Length 12 in., greatest height $7\frac{1}{4}$ in.

Ancient relics found at Twr, Holyhead Island.

Plate VIII.



SEFULCHRAL URNS FOUND IN ANGLESEY.



Fig. 2.—“Incense cup,” or fire vessel(?), of red brick colored paste, found in a barrow at Cerrig y Ddewi, Anglesey. Height $2\frac{1}{2}$ in., diameter at the mouth 3 in.



Fig. 1.—Cinerary urn of pale brown ware. Found, about 1850, in a barrow at Cerrig y Ddewi, in the parish of Llangwyllog, Anglesey. Height 9 in., diameter $8\frac{1}{2}$ in.

The two vessels above figured have been presented to the British Museum by the Hon. W. O. Stanley.



Fig. 3 — Bronze palstave. Length 6½ in.



Fig. 1.—Celt of magnesian stone. Length 7 in., breadth 3 in.



Fig 2.—Length 4½ in., breadth 2½ in.

Ancient relics found in the parish of Llangwyllog, Anglesey.

Plate X.

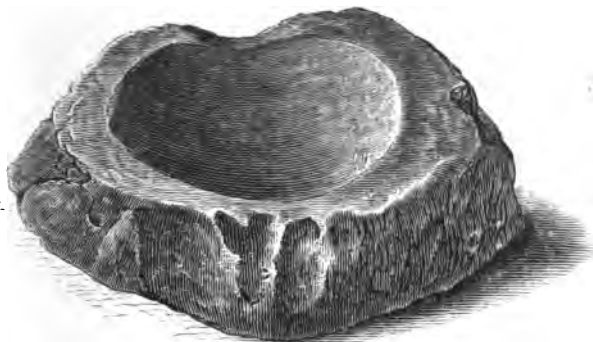


Fig. 1.—Shallow quern, or mortar, found with the stone balls.



Fig. 2.—Stone ball.
Diam. $2\frac{3}{4}$ in.

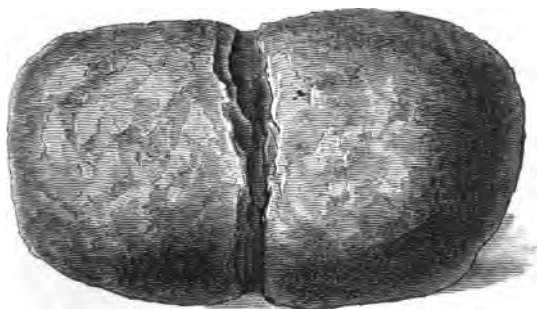


Fig. 4.—Hammer-stone, or weight (?) of quartzite. Length 4 in.



Fig. 3.—Stone-ball. Diam. $3\frac{1}{4}$ in.



Fig. 5.—Hammer-stone, or weight (?) Length $3\frac{1}{2}$ in.

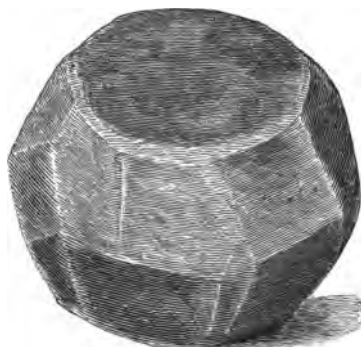


Fig. 6.—Stone ball, with facets. Diam. $1\frac{1}{4}$ in.
Ancient relics found at Geir, Anglesey.

SUPPLEMENTARY NOTICES OF RELICS RECENTLY OBTAINED
BY THE HON. WILLIAM OWEN STANLEY, IN HIS RE-
SEARCHES IN HOLYHEAD ISLAND.

SINCE the completion of excavations at Ty Mawr, and the adjacent sites of ancient occupation on Mr. Stanley's estates, near Holyhead, of which, through his liberal kindness towards the Archæological Institute, a record has been given in the foregoing pages and illustrations, several objects of considerable interest have been brought to light. Of these, including some relics of which no example had been previously found in Mr. Stanley's excavations, the following account may form an acceptable appendix to his memoirs. The numerous implements and appliances, however rude in fashion and of obscure purpose, are of no slight interest, as aiding our inquiries into the usages of daily life, and the measure of civilization, to which the occupants of Holyhead Mountain and the ancient settlements around its base had attained at a remote period.

I. Of the relics recently found may first be noticed a remarkable block of hard and ponderous stone (plate xii. fig. 1), considered by Mr. Stanley to have been used as a whetstone for sharpening instruments or weapons; probably stone celts or other appliances of that description. The upper surface is concave; the hollow is shaped out with considerable regularity, and bears marks of frequent percussion, as shown in the woodcut, whilst around the forepart and edge there are grooves or angular nicks that may have been produced in some operation of sharpening tools and the like. It is remarkable that these grooves appear to take a direction radiating from a common central point. Some of them are very slight, scarcely to be noticed at first inspection; for instance the little nick on the right-hand edge, marked with a small cross in the woodcut. The dimensions of this remarkable block are about 11 in. in breadth, and 9 in. in thickness. The purposes for which it was in-

tended are very obscure; the hollow surface apparently served in crushing or pounding some substance by aid of a roller or muller, and it has been conjectured that the pulverised product may have gradually fallen down through the marginal channels. No similar object has, however, hitherto been noticed that may assist our conclusions in regard to this ancient appliance.

II. With this relic Mr. Stanley brought before the Institute a stone tool of considerable interest. It is a hone, or sharpening stone of some hard material, about $5\frac{1}{2}$ in. in length, having on each of its sides a deep-cut groove, about 4 in. in length, caused, apparently, in sharpening some implement or weapon of metal, such as a spear-head, javelin, celt, and the like. It is likewise adapted for use as an ordinary whetstone or polisher, and is of a form worked with care, so as to be conveniently portable on a journey or in warlike expeditions. It may be noticed, moreover, that it appears to have served as a hand-hammer, each of the extremities bearing traces of much percussion. This curious implement possesses an additional interest as having been found at Ty Mawr, near the spot where a considerable deposit of spears, celts, and other objects of bronze were found in 1832, as related by Mr. Stanley in his memoir on ancient circular habitations excavated there in 1862.¹ In the course of his subsequent researches, in 1868, sharpening stones of various kinds were likewise found, and two of these have been figured in his second memoir on the ancient vestiges brought to light on his estates in Holyhead Island.²

Ancient mechanical appliances of this description have occurred in Ireland, but they are comparatively uncommon.³ Small hones also, or burnishers, have repeatedly been found

¹ Arch. Journ. vol. xxiv. p. 253; *Archæologia Cambr.*, third series, vol. xiv. The whet-stone above described was found in 1870; it has been figured in Mr. Stanley's *Memoir on his more recent discoveries*, Arch. Journ., vol. xxvii. p. 160, pl. iii. fig. 1.

² *Ibid.*, vol. xxvi. p. 321, figs. 18, 19.

³ Certain flat, oval, or round stones, sometimes regarded as missiles or sling-stones, are found in Ireland, having on each of the flat surfaces a groove, such as might be produced by sharpening a tool or weapon; for such uses, as Sir W. Wilde suggests, they may have been occa-

sionally employed. *Catal. Mus. R. I. Acad.* 75, fig. 56; Description of the Tonymore Crannoge, p. 10, where the use of such objects as weapon-sharpeners is more distinctly stated. Similar grooved pebbles are noticed by Nilsson, *Primitive Inhabitants of Scandinavia*, edit. by Sir John Lubbock, p. 13, pl. 1, but they are considered to have been hammer-stones, grooved for facility of attachment to the belt, or the like, by a string. The intention, however, of these curious grooved pebbles does not appear to have been satisfactorily ascertained.

in excavations of British remains in Wiltshire, by the late Sir Richard Colt Hoare, and on other occasions. A few specimens of sharpening stones and polishers may be seen in the instructive Blackmore Museum at Salisbury.⁴ In the examination of a Gaulish *oppidum* at Castel Coz, in Brittany, by M. Le Men, nineteen sharpening stones, length 2 to 10 in., were found. They are described as furrowed with lines produced by some sharp-pointed instrument.⁵

In connection with the curious sharpening stones discovered by Mr. Stanley, it may be desirable to invite attention to the repeated occurrence in North Wales, and amidst the heights of Snowdon, of rocks *in situ*, that bear grooved markings, traditionally regarded, in several instances, as produced by sharpening arrows, or some other weapons in early times. A very remarkable example was figured in the *Archæological Journal* in 1864, from a drawing, for which we were indebted to Mr. John Williams, of Beaumaris.⁶ This relic existed, as Mr. Stanley informed us, in a district full of historical traditions, in one of the mountain passes near Aber, in Caernarvonshire, where the Welsh princes had anciently a residence. The rock known as "Carreg y Saethau"—the stone of arrows, has subsequently, through wanton mischief, been broken up and destroyed. Similar scorings, supposed to be of remote antiquity, and associated with popular traditions, exist on Penmaen Mawr, near Glanogwen, also, and elsewhere, and, as we learn from Mr. Elias Owen, there had even been a notion that some of these markings might present characters or possibly some kind of Oghams. Other examples have been noticed in Merionethshire, by Mr. Wynne, of Peniarth.⁷ There can be little doubt that in every instance such incisions had been produced, as also on the stones found at Ty Mawr in Mr. Stanley's explorations, in whetting or polishing certain implements, whether of daily use or of warfare.

Whatever may have been the dim traditions of Cambrian

⁴ See Mr. E. T. Stevens, *Flint Chips*, p. 99, where may be found references to notices of objects of this class.

⁵ *Arch. Cambr.*, fourth series, vol. i. p. 296.

⁶ *Arch. Journ.* vol. xxi. p. 170; a more detailed notice has been given by Mr. Elias Owen, who enumerates several incised stones of the same description in

Caernarvonshire, *Arch. Cambr.*, third series, vol. x. p. 315; see also vol. xiii p. 103.

⁷ *Arch. Cambr.*, third series, vol. ix. p. 332, where Mr. E. Owen has figured some of these markings. Certain scorings on rocks in this county had been regarded as occult inscriptions. *Ibid.*, vol. i. p. 275; vol. ii. p. 72.

folklore, associated with relics such as the "Stone of Arrows" and the time-weathered incisions that they bear, we may doubtless trace to some furrowed rock of this description on the heights of Snowdon the origin of a picturesque fable chronicled by Giraldus—the Eagle of Eryri that, scenting slaughter from afar, was wont on every Friday to whet his beak whilst perched on the fatal stone that was almost riven in his impatience.⁸

III. The moiety of a hammer-head, or axe, perforated for the insertion of a handle, and of a type that had not previously occurred in Mr. Stanley's researches. (See woodcuts, plate xii. fig. 2) The hole for the haft was in this instance worked by boring perforations from the two opposite faces of the hammer, the difficulty of making them exactly opposite to each other being considerable. These objects, comparatively rare in England and in Wales, more common, however in Ireland and Scotland, have been found on several occasions associated with bronze weapons; they may probably be ascribed to the period when the use of bronze became prevalent, or to the latter part of the so-called "Stone Age." The fragment here figured, found at Ty Mawr, measures $2\frac{1}{2}$ in. in length, and 2 in. in thickness; it is of quartz and well fashioned; in general form, when perfect, it probably resembled that found at Gelley Dywyll, co. Montgomery, or a specimen from the Thames, preserved in the British Museum.⁹ The perforation gradually narrows towards the middle of the stone; the blunt end shows considerable traces of percussion.

A very good example of this type of hammer, sharpened or wedge-shaped at one of its extremities, and obtusely rounded at the other, was found in 1855 on the estates of Lord Newborough, near Glynllifon Castle, Caernarvonshire. It is of massive dimensions—length 10 in., breadth $3\frac{1}{4}$ in., thickness $3\frac{5}{8}$ in., diameter of the perforation $1\frac{1}{2}$ in. The material is a trap rock.¹

⁸ Gir. Cambr., Itin. Cambr., lib. ii. c. ix., Camden Anglica, etc. p. 872. "In eisdem montanis de Eryri aquila fabulosa frequentat, quæ qualibet quinta feria lapidi cuidam insidens fatali, ut interemptorum cadavere famem satiet bellum eodem die fertur expectare; lapidemque predictum cui consuerit insidere, jam prope rostrum purgando pariter et exa-

cuendo perforasse." Transl. by Sir R. C. Hoare, vol. ii. p. 131.

⁹ Franks, *Horæ Ferales*. p. 139, pl. iii. figs. 3, 4. The examples there noticed vary in length from $6\frac{1}{4}$ inches to nearly 8 inches. See also Lindenschmit, *Alterth. uns. heidn.* Vorzeit, heft viii. taf. 1.

¹ For a sketch of this specimen I am indebted to Mr. Wynne of Glynllifon,

IV. A flat, heart-shaped, sea-shore pebble, measuring about 5 in. in each direction. It had probably been selected on account of its peculiar form, which rendered it suitable for some mechanical or domestic uses. It was found in the cyttiau at Pen y Bonc. Compare relics of a like description found by Mr. Stanley in hut-circles in Holyhead Island, *Arch. Journ.*, vol. xxvi. p. 320, figs. 7, 8, 9; vol. xxvii. p. 161, pl. iv. fig. 4.

V. A rolled pebble of quartz, probably from the sea-shore; dimensions about 4 by 2 in. It bears traces of percussion and of friction on both of its sides, and may have served as a hand-hammer, or for some mechanical uses.

VI. Another pebble of irregularly ovoid form, of somewhat larger size than the last. These, with numerous other objects of stone, of rude forms, for the most part accidental but modified slightly in some instances by artificial means, are well deserving of examination, as aiding our researches into the usages and the degree of civilization that may have prevailed, at the period, amongst the occupants of Holyhead Mountain and the ancient settlements around its base.

VII. A rudely-fashioned disc of stone, measuring nearly 5 in. in diameter. It may have been used for some game, like quoits, or possibly should be regarded as a rough appliance of domestic use, such as a plate. Objects of this description have occurred in "Picts' Houses," and with other ancient remains, in Orkney and the northern parts of Scotland. In Ireland they have been found repeatedly in crannoges. Sir W. R. Wilde describes specimens in the Museum of the Royal Irish Academy as varying from 3 to $4\frac{1}{2}$ in. in diameter, and averaging half an inch in thickness; these are carefully smoothed on the flat surface. Their precise use has not been determined.²

VIII. A flat oval stone, measuring nearly $2\frac{3}{4}$ by $2\frac{3}{8}$ in.; of some dark-colored material that has become singularly light, either by the action of fire or by long exposure to the

through the kindness of the Rev. W. Wynn Williams. A hammer of the same type, length 9 inches, stated to have been found in Anglesey, may be seen in the Museum of Practical Geology, Jernyn Street, London.

² *Catal. Mus. R. I. A.* pp. 96, 99. Three, of fine sandstone, or very fine grit, are

of circular form; one, likewise of sandstone, and bevelled towards the edge, is oval. See also Wilde's account of the Tonymore Crannoge, p. 10; and notices of examples from Orkney, in Dr. Traill's *Memoir, Proceedings Soc. Ant. Scot.*, vol. vii. p. 432.

weather. It has doubtless been fashioned by the hand of man ; it is perforated in the middle, the perforation measuring only half an inch in diameter, and is scarcely suited for insertion of a haft, being apparently adapted only to admit a cord or thong for suspension. The use of such perforated stones is uncertain ; in some instances they were probably used as hammers, a purpose, however, for which the material of the specimen found by Mr. Stanley would be too soft and fragile.³ They vary considerably in size, commencing with the circular "whorls," of which many examples have been collected in Mr. Stanley's researches. These have very commonly been supposed to be weights for the distaff ; more probably they were used, in many instances, as buttons for fastening the garments of skins and the like. Perforated stones are of comparatively frequent occurrence in Ireland, and are regarded with a certain superstition ; in some instances they are associated with traditions of the fairies, and supposed to be found only by persons in favour with them. The possessor of some such talisman is reputed to have the power of curing diseases by some liquid in which such a holed stone has been steeped.

IX. The moiety of a rudely-fashioned shallow saucer of stone (plate xiii. fig. 3), that measured, in its perfect state, about 5 in. in diameter ; the average thickness of the stone is $1\frac{1}{8}$ in. No object of this description had been previously found in the excavations in Holyhead Island, nor, so far as we are aware, in Wales. Such appliances, probably of domestic use, have occurred in "Picts' Houses," and ancient habitations in the Hebrides. A relic of similar form and dimensions, of compact limestone, is figured in Nilsson's "Stone Age in Scandinavia ;" it had a very small ear or loop, suited for suspension, on one side ; whether a corresponding ear was formed on the opposite side cannot be ascertained, a portion of the margin having been broken off. This vessel was found in a gravel-pit ; it is therefore doubtful, as Nilsson observes, to what period it belongs.⁴

³ Compare Nilsson, *Stone Age in Scandinavia*, edited by Sir John Lubbock, pl. i. fig. 12.

⁴ *Primitive Inhabitants of Scandinavia*, *Stone Age*, edited by Sir John Lubbock.

p. 86, pl. x. fig. 210. See also shallow stands or saucers of smaller size found by Mr. Laing in Caithness: *Proceedings Soc. Ant. Scot.* vol. vii. p. 40, and *Antiquities from Orkney*, *ibid.* p. 218.

X. A singular very rough casting in yellow metal, here figured (plate xiii. fig. 4). It was found near Ty Mawr, not far from the spot where the celts, spears, and other objects of bronze were found in 1832. It has somewhat of the appearance of the upper part of a socketed and looped celt, but, in its present imperfect condition, much damaged also by decay, it is very difficult to form any probable conjecture in regard to the intention and use of this relic. It may have been merely the waste piece broken off in the operation of casting certain implements, the perfect form of which we are now unable to ascertain. This relic has, however, a certain value as proving the actual fabrication of objects of metal by the occupants of the ancient settlement on Holyhead Mountain. It will not be forgotten that a remarkable mould of hone-stone, for casting various weapons, had been found in Anglesey, and also that two moulds of bronze for casting palstaves were brought to light in the adjacent county of Caernarvon, near Bangor.

The weight of the rough fragment found at Ty Mawr is 1 lb. ; it measures nearly 3 in. in length, the breadth of the widest part is somewhat less than 2 in. The metal bears no trace of patina, and has the appearance of copper ; it had indeed been pronounced by a competent authority to be of that metal, so far as an opinion could be formed from color and the general condition. Probably the alloy may be unusually slight in proportion. Mr. Franks, however, who is very conversant with such matters, assures me that the surface presents the ordinary appearance of unpatinated Celtic bronze. I have not been able to obtain an analysis, which, considering the rare occurrence of ancient objects of copper, would be desirable. The Rev. W. Wynn Williams has described two palstaves found near Llanidan, Anglesey, of which one has a large per centage of copper ;⁵ and the point of a spear found amongst the bronze relics at Glancych is stated to be of copper.⁶

XI. A portion of a mould of stone, for casting metal discs of four various sizes. (Plate xiv. fig. 5). This curious object was found at Pen y Bonc towards the close of last year ;

⁵ Figured in Arch. Cambr., third series, vol. iii. p. 233.

⁶ Ibid., vol. x. p. 229. Of copper relics in Ireland, of rare occurrence, see Wilde,

Catal. Mus. R. I. A. pp. 356, 360. See also Sir John Lubbock's Prehistoric Times, second edit. pp. 28, 57.

it had been thrown out in the spring with the *débris* of the oblong building near the remains known as Ty Adda and Ty Efa, and was lately noticed when the crop of turnips was taken up. The remains brought to light on that site presented remarkable peculiarities. It was there, it will be remembered, that Mr. Stanley's careful excavations exposed to view a large hearth, with charcoal, scoria, &c., and a singular vitrified pipe of clay, also fragments of Samian and of other wares, believed to be Roman or Roman-British, as related in the foregoing memoir on the excavations in 1870, p. 5.⁷ There were also in this building, as stated, two fire-places, a grinding stone, and the curious appliances believed to have been for grinding red pigment, relics of which no other examples have occurred in Mr. Stanley's researches.⁸

The occurrence of part of a stone mould in proximity to objects of Roman date, and within or near a building that, as suggested by relics indicating operations of some mechanical arts, may have served for a workshop at some remote period, doubtless claims special attention. The dimensions of the mould are accurately shown in the accompanying woodcut, of the same size as the original stone (plate xiv. fig. 5); the material is described by Mr. Stanley as a "peculiar dark brown clay slate, such as some of the spindle-wheels or buttons are made of; it cuts soft." The surface has been rubbed down, but it does not appear that the stone was, as had at first been imagined, the moiety of a mould, that fitted as in other instances to a counterpart, cavities being formed between the two surfaces, and the metal poured in through a little orifice or channel, when the moieties of the mould were fixed in juxtaposition. It may therefore be concluded that the molten metal may have been simply poured over the surface, placed horizontally, and thus producing discs convex on one side only, their reverses being plain and flat. On the other side of the stone a circle has been struck, possibly the rough commencement of another mould for discs of metal.

The interest and comparative rarity of ancient appliances

⁷ *Archæol. Journal*, vol. xxvii. p. 151.

⁸ *Ibid.*, pl. v. p. 161; and in the foregoing memoir, p. 15. The discovery of objects connected with certain pigments (possibly body-paint) found in Orkney

has there been noticed. Of these some interesting notices have been subsequently given by Dr. Traill, *Proceedings Soc. Antiq. Scot.* vol. vii. pp. 433, 460.

connected with the mechanical arts have induced me to notice thus minutely the fashion of the relic from Pen y Bonc. It is to be regretted that it bears no distinctive indication of date, or of the class of objects, whether pre-Roman, Roman-British, or of some more recent period, to which it may be assigned. It may be scarcely needful to remark that stone moulds for celts, spear-heads, and the like, have repeatedly occurred in the British Islands; of the familiar use of such material at a remote period for casting objects of bronze, a remarkable evidence is supplied in the four-sided mould of hone-stone found in 1846 in the western parts of Anglesey.⁹ A few moulds of stone for producing ornaments, and certain objects of undefined character, have likewise been described; amongst these it may suffice to mention a specimen in the Museum at Edinburgh, that would produce, amongst various objects, discs and oval plates of unknown use; also a mould at King William's College, Isle of Man, for casting flat discs (not convex as in the example from Pen y Bonc), and three pronged implements, the intention of which, and also the date of the relic, have not been ascertained.¹

In the Museum of Antiquities at Caerleon,² described by Mr. J. E. Lee, there is the moiety of a stone mould found with Roman relics, and although in appearance not quite like Roman art, it has been regarded as probably Roman-British. It bears three matrices for casting wheel-shaped ornaments, also a fourth for objects of oblong fashion; the channels for pouring in the metal, and the holes for pins by which the two moieties were kept together in true juxtaposition are distinctly shown. This example measures about $2\frac{1}{2}$ inches by 3 inches. Of a later age, probably, are two specimens brought before the Society of Antiquaries of Scotland in 1863; of these, one found in a cairn near Whitby is formed with a circular cavity, in which a regular pattern radiates from the centre; on the other, the cavity,

⁹ Archæol. Journal, vol. iii. p. 257. See also Notices of Celts and of Celt-moulds in Wales, Arch. Cambr., third series, vol. ii p. 126; and an enumeration of celt-moulds formed of stone and of metal, Arch. Journ. vol. xviii. p. 166.

¹ Wilson, Prehistoric Annals, second edit., vol. i. p. 344. See also a singular

mould found in Aberdeenshire, Proceedings Soc. Ant. Scot. vol. iv. p. 382.

² Isca Silurum, an Illustrated Catalogue of the Museum at Caerleon, p. 71, pl. xxxvi. Pliny, Nat. Hist., lib. 34, c. 8, as pointed out by Mr. C. W. King, alludes to the use of heated stones in Gaul for casting objects of metal, "inter lapides candefactos funditur."

measuring an inch in diameter, presents a regal head in profile. It was found near Jedburgh.³

Stone moulds, unquestionably of mediæval date, have been noticed. In the *Archæologia*, vol. xiv. p. 275, pl. 48, an object of this description is figured that was found at Ashill, Norfolk, about 1798. It is now in the possession of the Rev. Samuel Lysons, F.S.A. The mould when complete was probably formed of three pieces, of which this was the central portion. It is worked with matrices for casting ring-brooches, probably of lead, with the angelical salutation *Ave Maria*.

Canon Greenwell has pointed out a certain resemblance between the convex discs that Mr. Stanley's mould would produce, and whorl-like objects of lead marked with radiating lines and intervening pellets, occasionally also with other rude ornaments. These metal relics, however, have invariably a central perforation of considerable size; their date and use have not been ascertained.⁴ A flat perforated whorl of stone, bearing also radiating lines and pellets was found near a sepulchral chamber at Carno, Montgomeryshire.⁵

XII. With the ancient relics above described, obtained by Mr. Stanley in his most recent researches in Holyhead Island, may be noticed also a remarkable object of stone that has lately come into his possession. It is a ponderous ovoid pebble, found near the residence of Mr. W. W. E. Wynne, at Peniarth, Merionethshire. It presents considerable symmetry of form; the surface is uniformly smooth, and the egg shape seems to be the result of art, not caused by rolling amongst other pebbles in a river-bed or the like. Mr. Wynne states that there is no stream in the neighbourhood of sufficient force and rapidity to have brought the stone to its present shapely form. It measures about $5\frac{1}{2}$ by $4\frac{1}{2}$ in.

Ovoid stones, wrought apparently with much care, have occasionally been found in barrows, or accompanying early interments. The country around Peniarth presents many ancient vestiges, hill-fortresses, and other remains, but it does not appear that any burial-place or tradition of any ancient site

³ Proceedings Soc. Ant. Scot., vol. v. p. 53.

⁴ Examples are noticed and figured in the *Archæological Journal*; see vol. xvii. pp. 164, 267; vol. xix. p. 189. Lead en ob-

jects ornamented likewise with radiating lines and pellets have been found near Rome and also in Greece.

⁵ Arch. Cambr., third series, vol. iii. p. 305.

could be connected with the discovery of the pebble in question, found some years since by Mr. Wynne himself. He has a second, of smaller dimensions, and of more oblate form; it measures rather more than 3 in. in length, by $2\frac{1}{2}$ in. in breadth in one direction, and $1\frac{1}{2}$ in. in the other. An ovoid stone of larger dimensions than those found at Peniarth was brought a few years since for the inspection of the Institute by the late Mr. Minty, of Petersfield; it was obtained in Hampshire, near an ancient burial-place. An Irish example, described as found in a cromlech called Leabher Caille (The Hag's Bed), near Glanworth, co. Cork, is in the possession of the Rev. James Beck, F.S.A. The original intention of such ovoid and spherical stones must be left for future consideration; in some instances they may have served as corn-crushers, or for other domestic uses, or, if appended to a haft by leathern thongs, they would supply a flail-weapon of formidable description. It is, however, very possible, especially when found with early interments, that they may have been associated with a certain superstitious veneration. In Scandinavia the *cultus* of spherical stones was retained, even to comparatively recent times, as stated in the very curious relation by Finn Magnusen, of the idolatrous observances that prevailed in remote mountain districts.⁶

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⁶ Annaler för Nord. Oldk. 1838, p. 133; Nilsson, Primitive Inhabitants of Scandi-

navia, Stone Age, edit. by Sir John Lubbock, p. 241.



ANTIQUITIES RECENTLY DISCOVERED IN HOLYHEAD ISLAND.



Fig. 1. Block of stone, singularly grooved, found in Holyhead Island.
Breadth, 11 in. ; thickness, 9 inches.

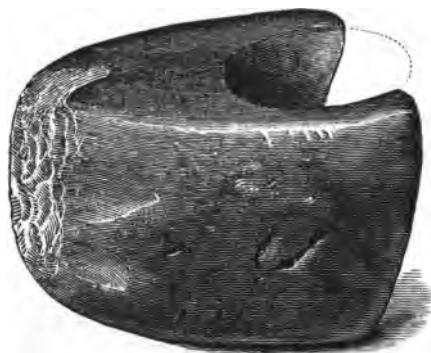


Fig. 2. Moiety of a hammer-head of stone, found in Holyhead Island.

ANTIQUITIES RECENTLY DISCOVERED IN HOLYHEAD ISLAND.

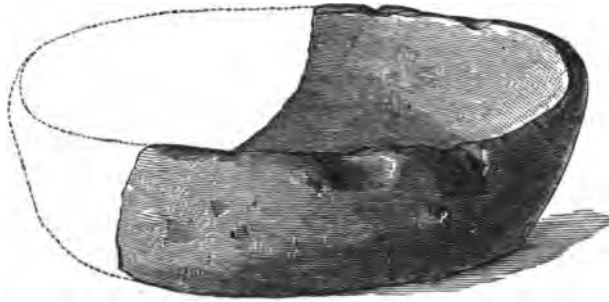


Fig. 3. Shallow saucer of stone.

Diameter, when perfect, about 5 in. ; thickness of the stone, $1\frac{1}{4}$ inch.



Fig. 4. Broken casting in yellow metal, found at Ty Mawr.

Length, 3 in. ; breadth, at the widest part, 2 in. ; weight, 1 pound.

ANTIQUITIES RECENTLY DISCOVERED IN HOLYHEAD ISLAND.

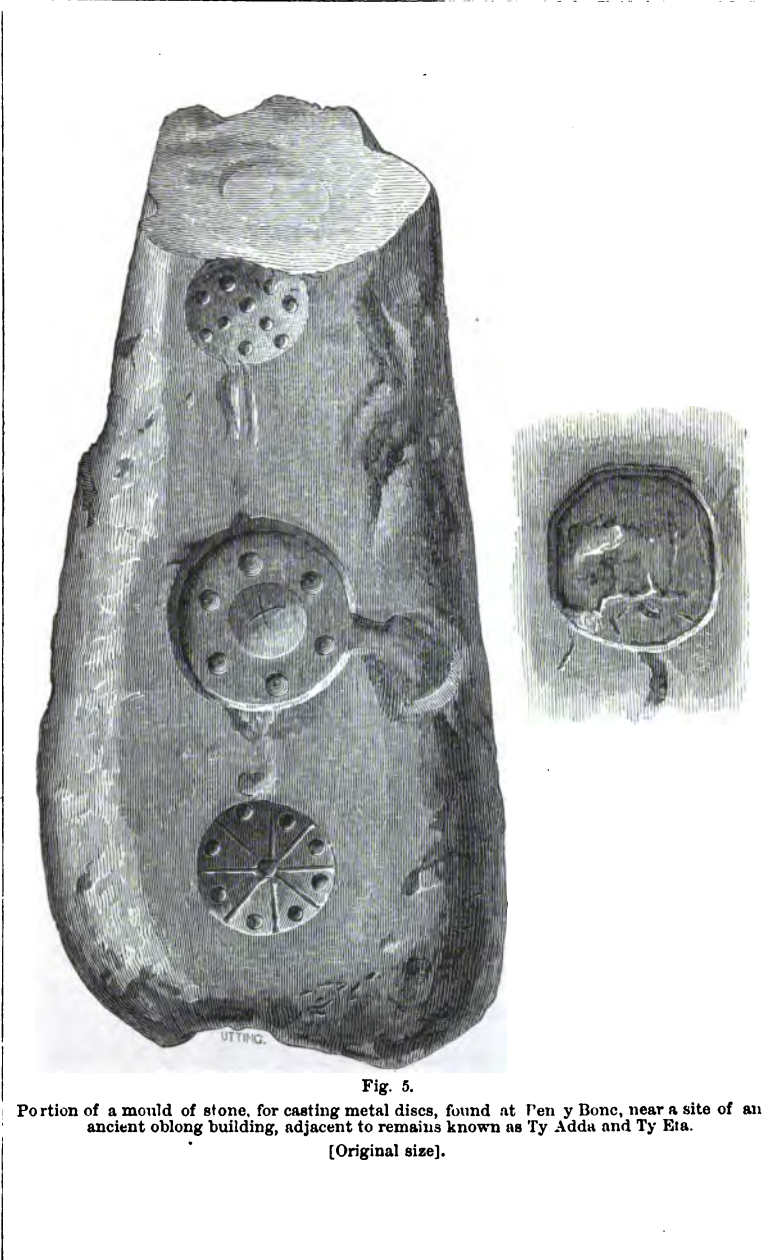


Fig. 5.

Portion of a mould of stone, for casting metal discs, found at Pen y Bonc, near a site of an ancient oblong building, adjacent to remains known as Ty Adda and Ty Ela.

[Original size].

